DOCUMENT RESUME

ED 177 154 SP 014 917

AUTHOR Klassen, Frank H., Ed.; Leavitt, Howard B., Ed.
TITLE Education for Development: International Perspectives on Expanding the Role of Teacher Education.
INSTITUTION International Council on Education for Teaching, Washington, D.C.
PUB DATE 77
NOTE 148p.; Proceedings of the Twenty-Fourth International Council on Education for Teaching World Assembly (Lagos, Nigeria, July 30-August 2, 197.)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Adult Education; *Case Studies; Change Agents; Curriculum Evaluation; Delivery Systems; *Educational Development; *Foreign Countries; *Needs Assessment; Rural Education; *Teacher Education

ABSTRACT

This publication presents the thinking and experience of experts from around the world on matters relating to the role of teacher education institutions in responding to nontraditional programs for children, youth, and adults in changing societies. Case studies of formal and nonformal education programs in the fields of agriculture and rural development, adult and community education, industrial and occupational education, and the utilization of mass media are presented. (JD)

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TEACHER EDUCATION 1977

EDUCATION FOR DEVELOPMENT:

INTERNATIONAL PERSPECTIVES ON EXPANDING THE ROLE OF TEACHER EDUCATION

INTERNATIONAL COUNCIL ON EDUCATION FOR TEACHING

INTERNATIONAL COUNCIL ON EDUCATION FOR TEACHING

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Individual--$10
Institution--$25
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EDUCATION FOR DEVELOPMENT:

Expanding the Role of Teacher Education

Proceedings of the XXIV ICET

World Assembly

Lagos, Nigeria

July 30 - August 2, 1977

Editors

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ICET is a non-government organization (NGO) member of the United Nations Educational, Scientific, and Cultural Organization, as well as a member of the World Confederation of Organizations of the Teaching Profession.

ACKNOWLEDGEMENTS

ICET is deeply indebted to a number of institutions and persons for their generous support of the XXIV World Assembly. Chief among these are U.N.E.S.C.O., the Nigerian Union of Teachers, the U.S. Agency for International Development, the Institute for Shipboard Education, Mr. W. Clement Stone, Chairman, I.C.E.T. Board of Trustees and Mr. C. Y. Tung, Member, Board of Trustees.

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Published 1978

The International Council on Education for Teaching
One Dupont Circle, Washington, D.C. 20036

Price $6.00

From the President's Pen

The XXIV World Assembly of the International Council on Education for Teaching brought to Nigeria delegates, observers, and other educational leaders from Asia, Africa, Europe, Oceania, and the Americas to focus on the theme of the conference, EDUCATION FOR DEVELOPMENT: IMPERATIVES FOR TEACHER EDUCATION.

This publication presents the thinking and experience of experts from around the world on matters relating to the role of teacher education institutions in responding to non-traditional programs for children, youth, and adults in changing societies. Case studies of formal and non-formal education programs in the fields of agriculture and rural development, adult and community education, industrial and occupational education, and the utilization of mass media provided an important backdrop not only for the presentation of papers but also for seminars, workshops, and small group discussions of pertinent issues and problems.

Through its program of World Assemblies and through other activities and projects, the International Council on Education for Teaching emphasizes three major goals: (1) to provide an international forum for an examination of the problems confronting institutions for the preparation of teaching personnel as they attempt to deal with the realities of educational and social development, (2) to assist institutions engaged in the preparation of teaching personnel to become more responsive to human needs, and (3) to stimulate international cooperation in the improvement of the quality of preparation of teachers, administrators, and other educational specialists.

The achievement of these goals demands the full participation and cooperation of all members of the teacher education community.

Paul H. Masoner
President

Foreword

The XXIV ICET World Assembly was held in Lagos, Nigeria, July 30 to August 2, 1977, and focused on the topic, Education for Development: Imperatives for Teacher Education. Through the use of case studies of outstanding innovative programs from around the world, the conference participants analyzed and discussed the critical issues involved in making teacher education more responsive to the broadening needs of adults, youth and children in changing societies.

This publication constitutes the Proceedings of this international forum, but it represents more than a record of an international conference. Because the process of development has been highlighted in each case study, the document may be viewed as an international guide to the development of new educational programs. For this reason, administrators of development programs, international agency personnel, university professors and students of educational development, as well as others, will find this volume a rich source of information.

The purpose of the publication is two-fold; to stimulate ideas on how the reader's own institution or agency could be responding to new educational development needs and, also to suggest a wide range of procedures, utilized by others, which might be selected and appropriately adapted for use in a new program. To achieve these goals, the publication:

- Provides visibility to programs from different countries; programs widely regarded as innovative, pioneer approaches to meeting new educational needs.
- Presents case studies in such a way that the experience which these innovators have encountered is highlighted.
- Focuses upon the processes by which these innovative programs have been conducted in such a way that cross-national contrast and comparison is facilitated.

We do not suggest that one can import a carbon copy of another nation's educational practices. What can cross

international boundaries is the seed of an idea that can flourish under the special cultural and economic conditions of the importing country. To encourage the transfer of ideas, we have asked case study writers to describe the cultural background out of which their programs grew as well as the procedures used by them to make their programs work. Since most of the writers followed a standard format, the reader can easily note the logical steps in the development of the programs; the assessment of needs, the formulation of objectives, the development of strategies for achieving objectives, the management of a program and the application of evaluation techniques for feedback and improved operation. In addition, we asked the program managers to include in their case studies an account of the problems encountered and how these were resolved. Finally, we asked writers to write a concluding paragraph addressed to an international audience on the most important conclusions or lessons that had been learned. Since we wanted to make available to the reader a stock of ideas about procedures,we were faced with the problem of highlighting the range of illustrations of educational needs being met, the range of strategies being employed, and the range of management procedures being used. We therefore devised a margin index which would simplify the problem of locating examples of procedures and make it easier to compare and contrast a wide range of practices from different countries.

How to Use the Index

The margin index is located on the back cover. The topics which have been indexed throughout the book are as follows:

- Program Summary
- Socio-Economic Background
- Educational Needs
- Problems Encountered
- Evaluation Procedures
- Conclusions - What Has Been Learned

In order to locate a topic as it appears throughout the book, the reader is invited to bend the book and follow the margin index to the pages which have been edged with black markers. Since markers appear only on even numbered pages they refer to topics located on either the even or odd numbered pages.

Howard B. Leavitt
Frank H. Klassen

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Education for Development

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Introduction

In recent decades the forces of modernization have propelled the concept of development to a preeminent place in the affairs of mankind. Development has now taken on a dynamic connotation and becomes a useful tool for understanding the complex relationships among various sectors of society as they interact, mingle and react to forge what is hopefully a more just and viable society.

The polarities that were nurtured by colonialism, the independence of multinational industrial giants, the imbalance of trade between the have and have-not countries, the inequitable rewards for manufactured versus raw materials, and the enormous gap among peoples and nations, are conditions which people are finding increasingly intolerable. New awareness of the interdependence of nations, steadily rising aspirations and expanding demand for human rights have led inevitably to a concept of development that goes beyond an exclusive concern for the economy, to the quality of life, the birthright of all persons.

These changes have affected all nations. Development is no longer a process or a goal relegated exclusively to have-nots, a topic of interest only to the southern half of the North-South dialogue, or the prerogative of nations newly enriched by mineral or petroleum discoveries. In an interdependent world, *development* has become a common denominator infusing education everywhere with meaning, momentum and purpose.

The impact of modernization on a nation's educational system is of special interest because of the burden education is expected to bear as a contributer to the development process. Four major characteristics of education in development situations are explored in this article.

I. Expanding Educational Opportunity

The most visible and obvious characteristic is the linear expansion of education in response to social demands. This continuing rise can be attributed partly to population

increases as well as to the growing belief that the quality of life can be improved through education. Increase in enrollment is also the direct result of officially proclaimed government policies that every child should go to school. The Nigerian government, for example, in its National Policy on Education, states unequivocally that universal primary education is needed to accelerate the pace of national development.

The main issue underlying the expansion of educational facilities is one of timing. What is the desirability of expanding schools quickly in response to popular demand, balanced against financial constraints which limit quantitative expansion and deeply affect quality control during the expansion process?

A development strategy that features educational expansion must continue to strive for a balance between quantitative expansion and the maintenance of quality. Phased planning and political pressure, nevertheless, are not ordinarily synchronized toward achieving the same expansion goals. Problems of lowering standards emerge as existing resources are depleted or diluted.

Once some form of universal primary education is started, it becomes exceedingly difficult to control the demand. Furthermore, each successive educational level begins to feel the population pressure from below. Those with primary education want secondary education for their children, those with secondary, want higher education. Thus, each generation starts from a new platform of higher expectations.

II. Preparing Educational Personnel for New Roles

Education geared to national development in its fullest sense means education for new occupations, new technical skills, new functions, as well as for the extension of educational services at all levels. While maintaining the teaching of basic skills as their proper function, educational institutions are reappraising the relevance of their programs to changing societal needs. Programs which respond to the need for persons with teaching and educational skills in a variety of fields outside of the formal school are beginning to appear in many parts of the world.

The decision to prepare teachers for new roles starts with the framing of a simple question. *In what ways can an institution designed to prepare teachers, educational administrators, and specialists, be exploited to serve a broader range of educational needs in society?* The demand for trained educators outside of the school system takes the form of nonformal education, human services and special technical training both in urban and rural areas

Each example of new roles for education represents a search

for unmet educational needs of people and the development of programs to meet these needs. There is a strong presumption that educational needs, though often not immediately apparent, are nevertheless omnipresent in all societies undergoing change and represent a major development challenge.

A key issue which underlies the preparation for new roles is the extent to which the new focus diverts attention and resources away from the traditional functions and weakens the integrity of programs for the preparation of teaching personnel for schools.

III. Developing New Delivery Systems

Educational expansion and diversification of needs have stimulated the search for new institutional arrangements and the application of innovative techniques to solve fundamental problems.

Among the major initiatives are: developing long distance instruction; utilizing a variety of para-professionals to extend the influence of a trained teacher; developing self-instruction materials, modular curriculums and peer teaching; using limited resources more productively; and continually assessing the relationship between educational content and process, and the achievement of development goals.

Each of these strategies stresses a number of recurrent themes relating to the effective use of new delivery systems. They must be firmly based on the desires and interests of clients and must actually deliver services as efficiently, if not more so, than alternative systems. They must have regular and efficient feedback data in order to constantly keep the program correctly aimed. They must have the strong support of governments or other sponsoring bodies for credibility. Finally, they must be managed efficiently and intelligently by trained administrators.

This diversity of delivery systems highlights the creative energies and variety of strategies in education that have been spawned by the development process around the world.

IV. Improving the Quality of Education

Qualitative factors related to development are elusive. They are affected by tradition, by history and by local standards of perfection strongly influenced by individual and national aspirations. In all changing educational systems of the world, the oscillation between concepts of quality that are individual-centered and those that are society-centered provide some of the dramatic tension and impetus for change.

Continued assessment and evaluation of the products of instruction are the only means by which quality can be judged.

Qualitative improvement is rarely systemic in a development process. The variables are too great and the pressures for expansion frequently outweigh those of productivity and efficiency. Nevertheless each development process strains toward goals which are selected because of their qualitative supremacy over the status quo.

Implications for Teacher Education

The argument for the involvement of institutions that prepare teachers, educational administrators and specialists in a country's development activities can be made on two grounds.

First, these institutions always represent a sizable investment in resources - trained professionals, buildings, facilities, and money. At a time when people of all ages are demanding more formal as well as nonformal education the fullest exploitation of existing resources is required. Although there are some educational functions which these institutions cannot and should not perform, they should carefully examine ways in which they could be more responsive to broadening educational needs that accompany the process of development, without impairing their basic function of imparting basic skills.

Second, is the fact that many of the skills, competencies and technical knowledge which are the stock-in-trade of these institutions are being sought by people outside the school system. If the institutions that prepare teaching and administrative personnel turn their backs on these demands, then they will either be met by other institutions or remain unmet to the detriment of the society.

In terms of expansion, institutions can respond more fully and flexibly to the need for crash training programs which nevertheless preserve a basic irreducible level of quality. In terms of preparing educational personnel for new roles, institutions can actively encourage rather than discourage the search for effective ways of providing educational services, especially for those who have not had equitable access to education. In terms of developing new delivery systems, institutions can provide encouragement, but at the same time, critical evaluation to innovative programs. The problem of who shall educate the innovators, who shall train the trainers of trainers, are questions which institutions might well ask. In terms of improving the quality of education, institutions can ensure that development goals are being met and that a strong linkage is made to exist between the content and methods of instruction and the achievement of pupils.

Section One:

EXPANDING EDUCATIONAL OPPORTUNITY

Section One, on expanding educational opportunity, is introduced by LONGE's paper on Nigerian educational policy since the beginning of independence and the education context for the dramatic introduction of universal primary education. Three case studies follow, on the experience encountered by South Korea, Egypt and Nigeria in implementing national policies of universal primary education. KIM describes the series of five year plans for implementing universal primary education in South Korea and the difficult problems that had to be resolved.

In the second case, KOTB describes Egypt's unique attempt to promote literacy and basic education through the establishment of the one-classroom school in rural areas.

Finally, UKEJE presents the experience of Nigeria and the problems in dealing with the overwhelming response to the new law when unexpectedly large numbers of students presented themselves for enrollment.

Education for Development in Nigeria

G. A. E. LONGE
Federal Ministry of Education
Lagos, Nigeria

Education Goals in Nigeria

Throughout the history of mankind, education has assumed various roles and significance and has also been used as an alchemy for achieving various goals and objectives. For instance, the ancient Greeks with their city-states regarded education as a major communal service and an essential instrument for the training of their citizens. Thus, each city-state had its own aims and methods of education. The Spartans, who were always in the minority in those states, adopted an education system chosen to promote the soldierly qualities of courage and obedience because they hoped, through such training, to preserve their positions as the dominant race. In contemporary times, President Julius Nyerere of Tanzania has said that the purpose of education is "to transmit from one generation to the next the accumalated wisdom and knowledge of the society and their active participation in its maintenance or development". In this context, education and societal or national culture are inseparable.

Nigeria's philosophy of education is based on the development of citizens who will contribute positively to the achievement of its objective to build a society which is free and democratic, just and egalitarian, strong and self-reliant, economically dynamic, and full of opportunities for all its citizens. While this is our overall objective, education in the simple, popular sense will continue to mean the formal training given in institutions of learning, which enables individuals to read and write, receive specialized training, and acquire the skills and competencies necessary for understanding the world around them.

Nigeria's Educational Policies

Flexible Manpower Planning

As a bloc, developing countries have been confronted with the question whether education should be planned and rationed to meet the requirements of a nation's economy or whether

students should be free to choose the kind of education they want, regardless of its relevance to the nation's needs. A nation's system of higher education can be managed according to two basic principles: *the man-power principle,* whereby the objective is to produce the right number of persons for various vocations and professions; and the *free-choice principle,* whereby the objective is to supply education according to students' choices. Although it has been argued forcefully that the free choice idea is both more humane and, in the long run, more efficient, most developing countries take the view that the manpower approach will supply needed trained specialists as the national economy evolves. These national needs at various stages of development can be predicted in some detail, and many countries believe that education at all levels should be geared to meet those needs. However, in the final analysis, a country may discover that some elements of both principles exist in its educational system, with emphasis being laid more on one principle than the other, in the light of its circumstances and priorities. In its national policy of education, the Nigerian Government has stated that for universities to make optimum contribution to national development, they must intensify and diversify their programs for the development of high-level manpower within the context of the needs of the economy, thus satisfying the criterion of relevance while also satisfying the criterion of excellence, which is the hallmark of university education.

Decentralization

The world's educational systems can be categorized into two types: the *centralized* system, which bases its curriculum mostly on formal schooling; and the *decentralized* system, which bases its curriculum largely on the local environment and orients it to the demands of the local communities. Although all countries have a combination of these types, the particular balance between the two systems from each country's desired form of society and the type of persons it requires its educational system to produce. In African countries, the formal, centralized educational systems left over from the colonial period do not usually correspond to the political options of the new African States, their geographical, physical, and human situations, their cultural traditions, and their requirements for development of available resources. Ideally, education should be designed to produce people of vision and sensitivity, people who will be motivated to direct technology into humanly constructive channels.

Nigerian National Policy on Education

The national objectives of Nigeria--as stated in the Third National Development Plan--were used in formulating the new National Policy on Education in Nigeria. The Policy represents a radical change in our educational perspectives: its concepts, philosophy, and provisions are aimed at accelerating the pace of national development.

Changes in Educational Perspective

It is essential to stress that, since Independence, investments in education have been among the highest priorities of various state governments in the Federation. For instance, in the First National Development Plan (1962-1968), total budgetary allocations to the Educational sector ranked fifth; while in the Second National Development Plan (1970-1974), the priority rating improved to a position second only to Transport. In the Third National Development Plan (1975-80), the Educational sector has maintained the second priority rating, topped only by Defense. Without doubt, education will continue to demand a large share of our available financial resources, especially considering the Universal Primary Education scheme, which was introduced in September 1976 and which will produce vast numbers of students for our secondary and higher educational levels by 1982.

In evolving the National Policy on Education, the Federal Military Government has used hindsight, learning from the lessons and experiences of our colonial past. The policy is designed to be more directly related and meaningful to the realities of our situation, including our peculiar needs and cultural heritage. The pedagogical methods to be used and the knowledge to be acquired are to be more practical in solving our immediate and long-term problems. Theoretical education will, of course, continue to be the base of training in the humanities; but emphasis has to be shifted in such specific fields such as medicine, engineering, technology, etc., to practical applications. Accordingly, our educational system will place a higher premium on preparing students for blue-collar occupations rather than the traditionally fashionable white-collar jobs, dictated by our former educational policies. Essentially, our new National Policy on Education is rooted in the main objectives or evolutionary principles as contained in the Third National Development Plan.

Changes in Educational Structure

Under this policy, education in Nigeria has been restructured into a 6-3-3-4 sequence. This structural re-alignment has quantitative implications for the education system. The lengthening of primary and secondary school education to six years implies that even without the inevitable increases in the school-going population as a result of general population growth, primary school and secondary school enrollments will go up by at least one-fifth of what they now are. This calls for large increases in resource input in education at these levels: more teachers, more teacher-training resources, and more classrooms and other facilities. In addition, the 6-3-3-4 structure implies that the first stage of education would be at the end of junior secondary school and not at the end of primary school. At the end of the first six years of school, all primary school pupils would be expected to move on to the three year junior secondary school. Depending upon their capabilities, students may then terminate their formal education, go on to apprenticeship or formal training in trade centers and technical schools, or move on to the senior secondary school. There, longer periods of primary and secondary education should mean better and better candidates for both university and technical education, as the quality of education improves. In a technological age, this country can afford the luxury of an educational system which waits until quite late to prepare its pupils and students for technical, technological, and professional education and training.

Education for Development

In consideration of today's technological world, the National Policy on Education provides for the teaching of vocational subjects and skills in primary and secondary education. At the primary school level, memorization and regurgitation of facts will give place to a teaching method which encourages practical, exploratory, and experimental methods particularly in the development of manual skills. In the junior secondary schools, not only will vocational studies and skills be emphasized, but equal emphasis will be placed on the teaching of mathematics and the natural sciences. In this way, students are prepared for both further education in the senior secondary school system and for apprenticeship and training in the trade centers and technical schools. The National Policy of Education in Nigeria is predicated on the belief that the educational system in a developing country must be geared to the country's need for development. The Federal Military Government is determined to ensure that the far-reaching measures of the Policy are successfully implemented throughout the country.

CASE STUDY #1

Compulsory Primary Education in Korea

SUNG-IL KIM
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Toward Equal Educational Opportunity

Organized in November 1945, the South Korean National Committee on Education Planning adopted the educational policies which had been set by the U.S. military government. The goal was to democratize the nation and provide equal educational opportunity through compulsory primary education. Additional policies included the following:

- Strengthen the educational administrative organization of the central and local governments.
- Abolish the differences among schools and create a single school system.
- Institute coeducation.
- Establish teachers colleges and inservice education.
- Compile textbooks in Korean.

Unfortunately, attempts to implement these objectives met with many problems, especially the provision of textbooks in the Korean language, improving teacher education, and securing adequate finance. Regardless of these problems, the Korean peoples were so eager for the establishment of six-year compulsory primary education that the U.S. military government decided to adopt the compulsory education plan as submitted by the Korean Education Committee in September 1946. However, despite great efforts, the committee proved unable to provide sufficient subsidies for its realization. The goal proved impossible to achieve quickly because a doubling of classrooms would be required, 10,000 additional teachers were needed every year, and an increased budget of over $13 million was needed annually.

Need for Teacher Training

The shortage and inadequacies of personnel in the education system became critical with the sudden dismissal of 150,000 Japanese teachers and school administrators from Korean schools. The Military Government had difficulty filling these vacancies with adequately trained Koreans. The problem of staffing was not only a problem of quantity, but also of quality of staff previously trained in traditional indoctrination methods. The new curricula, teaching methods, and philosophy of democratic education introduced by the Americans were unfamiliar to

Korean educators, making it necessary to retrain them. In fact, there was very little understanding of democracy, both as a means of operation and as ideology. Many of the people were relatively ignorant of their own country's language, history, and culture. For these reasons, the preservice and inservice training of teachers, particularly school administrators, was one of the most important tasks facing the Department of Education and the Military Government.

Legal Basis for Compulsory Primary Education

In the Republic of Korea, the fundamental principles and policies for education, including compulsory education, are based upon its Constitution. The main articles on compulsory primary education, as set forth in the Education Law of 1949, are as follows:

- Every person is entitled to receive a six-year primary education.
- Central and local governments share the responsibilities to establish and operate the necessary primary and civic schools, as well as to provide an education plan for those who have not had the benefits of primary education and are too old to enter primary schools.
- School boards and districts in every city and county shall establish and administer the compulsory primary education. However, all the salaries of the teachers and other expenses of the schools shall be provided by the National Treasury of the Central Government.
- The age for compulsory education shall be from age 6 to age 12.
- When children are unable to attend school because of economic reasons, the local education autonomy body can subsidize educational expenses.

Inauguration of Compulsory Primary Education

Compulsory primary education, a long cherished desire and one of the greatest tasks since the Liberation, was implemented in Korea in June 1950. Many schools and classrooms had been built by the government, with the enthusiastic cooperation and financial assistance of parents and local citizens to implement the compulsory primary education.

At the beginning of compulsory primary education, the government faced too many problems to implement it satisfactorily. The Korean War had broken out 25 days after the start of compulsory education. With the invasion of North Korean Communists, all educators and students had to seek refuge with the government, away from the battleground. Implementation of compulsory education during war time was attempted at great

effort and hardship. Education was virtually paralyzed. War damages to the educational facilities were beyond description. For instance, over half of all school buildings were destroyed and what remained were quite useless without extensive repairs. Consequently, the number of primary school enrollments decreased as much as 590,000 in 1951. The educational structure inevitably had to be reorganized under war-time necessities.

With gradual recovery after the war, primary schools were restored and began to operate. In large southern cities, many primary schools, mostly open-air schools, were established for school-age refugee children.

Following the 1953 armistice, rehabilitation of the educational system was undertaken at a feverish pitch, with the active assistance of such international agencies as the United Nations Korean Reconstruction Agency (UNKRA) and the U.S. Government. Under this impetus, the status of education was restored to a pre-war level, both in physical facilities and in quality of teaching. The most striking feature of education after the armistice was the tremendous qualitative growth. In 1953 the Government organized the Six-Year Plan of Compulsory Education 1954-1959, in order to more effectively complete the implementation of compulsory education.

The Six-Year Plan of Compulsory Education 1954-1959

According to this plan, the enrollment ratio would be raised from 76% in 1953 to a target of over 96% in 1959. Although the actual 1959 enrollment turned out to be 83%, this was still a great achievement. Paralleling the increase of enrollments, the number of primary school teachers was increased by over 21,000 from 1953 to 1958.

Unfortunately, insufficient new classrooms were built, due to the lack of funds. Serious problems of classroom shortage in the primary schools, especially in large cities, created overcrowded classes with many more students than the Education Law's limitation of 60 in a class. It was not unusual to find 90 or 100 students in a classroom in Seoul at that time. Also, most schools in large cities, especially in Seoul, had many more classes than the limit of 36 classes per school. Large schools sometimes had over 90 classes. These schools had to operate with double- or triple-shift classes, mostly for the lower grades.

Besides classroom shortages, there were other problems, such as establishing small branch schools on remote islands and providing free meal service and textbooks to poor pupils in remote areas. Since 1956, the government has distributed 100 million pounds of milk donated by UNICEF to poor pupils and free textbooks to about 10% of all pupils, and has established many branch schools on remote islands.

But the government has had to depend upon much financial assistance from parents and school-supporting associations in order to compensate for the lack of educational funds. Without this financial assistance, free compulsory education would have been impossible to carry out.

Four 5-Year Development Plans for Compulsory Education

The First 5-Year Plan, 1962-1966

The May Revolution of 1961 marked the opening of a new chapter in the annals of Korean education. From the beginning of this regime, the revolutionary government was very much concerned with compulsory education, and made deep and extensive changes. To centralize authority, all school districts and boards were abolished and their functions and administration absorbed by cities and counties. In 1962 normal schools were upgraded to two-year teachers colleges in order to improve the quality of primary school teachers. In 1964, educational autonomy was restored, and compulsory education was again administered by the superintendents of the city or county school districts directly and by the superintendents of Special City or Province Education Board indirectly.

Although substantial progress had been made in implementing compulsory education, particularly through the original Six-Year Plan, many important improvements had to be made before a reasonable standard of education could be attained. For instance, the classroom shortage still needed to be overcome, dilapidated facilities repaired or rebuilt, more school funds raised, more teachers trained, more teaching aids and other equipment supplied, the size of the average class reduced, and textbooks freely distributed. Under these difficult circumstances, the revolutionary government set forth its Five-Year Development Plan of Compulsory Education.

In order to provide the basis for financial resources for compulsory education, a Law of Financial Grant for Compulsory Education was enacted in 1962. Under this law, 42% of the costs were to be met by an income tax and 50% by an admission tax. By 1966, the status of compulsory education in Korea improved. The enrollment ratio was raised to 95%, the number of teachers was increased 25%, and basic school facilities were greatly expanded.

Nevertheless, the number of classrooms and facilities still was not able to accommodate the ever-increasing school population. Classroom shortage was the most serious problem to be solved at the end of the five-year period. Although in 1966, 86% of the budget of the Ministry of Education--17% of the total governmental budget--was allocated to compulsory education, it was insufficient to solve the problem of lack of physical facilities. Under this critical situation, more

drastic and stronger development plans were set forth from 1967-1976.

The Second and Third 5-Year Development Plans

Results of the Second Plan, 1967-71. The total number of pupils in 1971 increased much less than anticipated as a result of the national family plan movement campaigned by the government. Since 1971, enrollment numbers in compulsory primary schools have been decreasing gradually every year. Consequently the total number of teachers has not increased by the previously estimated amount.

About 95% of the projected number of classrooms were constructed, and over 90% of other facilities were constructed or repaired during this period. Overall, the quantitative improvement of compulsory education in the 1960's was remarkable. To improve the financial resources for compulsory education, the 1968 Law of Finance Grant for Compulsory Education set aside 12% of domestic taxes for compulsory education and another 1.4% for local education. This law also prohibited sundry expenses collected by schools and established a P.T.A. Fee, from which certain poor families were exempt.

Results of the Third 5-Year Plan, 1972-1976. The financial situation for compulsory education was very unfavorable during this period. The Ministry of Education budget support for compulsory education was decreased, as well as the percentage of the government's budget allocated to the Ministry of Education. Consequently, the goals of the third plan were not achieved.

The Fourth 5-Year Development Plan, 1977-1981

The main goals of this plan, to be implemented by 1981, are as follows:

- Total number of pupils will be decreased by 5 million.
- Total number of classrooms will be increased to 107,528.
- 172 new schools will be established.
- The national average class size will be decreased to 51.
- The P.T.A. fee will be reduced, to be replaced completely by the National Treasury.
- Textbooks will be provided to all pupils.

In order to achieve these goals, approximately $278.4 million will be invested.

Problems of Compulsory Education

Oversized Classes

In spite of great efforts of the government through the consecutive development plans for more than 20 years, class rooms were still insufficient in 1976; 34.7% of the classes

had more than 60 pupils, necessitating double shifts in large cities and great overcrowding elsewhere.

Oversized Schools

According to the Education Law, the maximum number of classes in a primary school is 36. This goal is a long way from being achieved. In 1976, 515 schools had more than 36 classes, and some primary schools located in Seoul had more than 77-100 classes each. It is very difficult for a principal to control and administer such a large school, as well as for a teacher to control so many pupils. However, this problem will not be solved unless the Ministry of Education and the Government make special efforts to recognize and remedy this problem by dividing large schools into smaller schools and decreasing class size.

Teacher Supply and Demand

To accommodate the rapidly increasing enrollments and expanding classes in primary schools, the number of primary school teachers graduated from teachers colleges had been continuously increasing from 1967 to 1973. During this time, six additional teachers colleges were built, making a total of 16. But beginning in 1970, these 16 teachers colleges began to produce an oversupply of primary school teachers. Accordingly, beginning in 1977, the Ministry of Education decreased the enrollment numbers of these colleges and converted six additional colleges into inservice training centers for primary school teachers.

Still, this year almost 7,000 graduates are waiting for their teaching appointments. Increasing classes would not only solve the problem of oversized classes, it would also decrease the number of unemployed graduates from teachers colleges.

The P.T.A. Fee

It is "unthinkable" to collect money from parents of primary pupils in a system of compulsory primary education guaranteed by the Constitution. However, the shortage of educational funds has necessitated collecting a school fee from parents in Seoul and Pusan. A reduced fee has been collected from parents in other areas, except for poor families who are exempt. It is planned that by 1981 this fee will be reduced drastically and replaced completely by monies from the National Treasury.

Free Textbooks

In order to implement more effective free compulsory education, all textbooks should have been provided without charge to all pupils. This has not been followed in the past, particularly in Seoul and Pusan. But, according to a recent announcement of the Ministry of Education, beginning in 1978

all textbooks will be free for all pupils in primary schools.

Finances

Two circumstances have created an unfavorable financial situation since 1972: (1) government support through domestic taxes has not been regularly sustained, and (2) funds were diverted to middle schools in preparation for the extension of compulsory education to the middle school in the early 1980's. To help the present condition of compulsory primary education, the Ministry of Education plans to gradually raise the percentage of domestic taxes or to establish a new education tax by 1981.

Conclusions

Six-year compulsory primary education began in 1950 and has had many problems. These include classroom shortage, superannuated facilities, oversized classes and schools, double or triple shift class operation, and shortage of teachers and teacher training institutions. Nevertheless, the government and local boards of education have made great efforts to solve these problems and to improve the poor conditions of compulsory education. But no matter how great the efforts made by the government and local boards of education, the entire goals cannot be attained without sufficient financial resources. Therefore, a great portion of the financial responsibility for compulsory education depends upon the financial support of pupils' parents.

What was very important in implementing compulsory education was *the making of a long-term integrated plan in developmental stages*. This is to be recommended because financial resources are based upon the national economic development instead of sporadic or short-term plans. Through long-term planning, compulsory primary education has been implemented successfully by the great efforts of the Korean government and the great support of the Korean people. The next goal is the extension of free, compulsory education to the middle school in the early 1980's.

(For additional information, contact Dr. Sung-il Kim, Chung-ang University, Seoul, Republic of Korea).

CASE STUDY #2

The One-Classroom School: Toward Eliminating Illiteracy in Egypt

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The Struggle Against Illiteracy

In spite of the existing compulsory education act which has been in effect for more than 50 years, the number of persons in Egypt who are illiterate is still very high. According to some estimates, 59% of the population over eight years of age cannot read or write. The constitution of the country stipulates that it is the obligation of the government to provide for each child a minimum of primary education. The law states that primary education is compulsory for every child reaching age six and that it should continue for at least six years, until age 12-14.

Many efforts have been made toward the implementation of universal primary education in the country. The rate of expansion of this education has been going at a good pace during the last 25 years. The number of pupils enrolled in primary schools has risen from 1.3 million in 1952 to 4.2 million in 1977. However, the illiteracy rate in the country has not decreased significantly: from 70% in 1952 to a little less than 60% today.

Three basic factors may explain why progress in the struggle against illiteracy has been impeded.

- It is difficult to provide primary education for some children in certain remote areas. In 1976, only 80% of the total number of children reaching the compulsory education age group (6-8) were enrolled in primary schools. The other 20% were doomed to become illiterates. The present five-year plan (1976-1980) aims at reaching full enrollment by 1980.
- There is a high percentage of dropouts among primary school children. At least 20% of the pupils who enter the primary school are estimated to leave during the first 2 years. This phenomenon usually takes place in deprived areas, due to economic reasons and the need of the parents for the income their children get by working at this early age instead of going to school. These dropouts contribute another 20% to the illiteracy rate.
- An estimated 20% of pupils who continue in the primary school and reach the sixth grade leave their schools without being able to pass the primary school certificate examination.

This is usually due to poor learning conditions, particularly the overcrowded classrooms. Often the parents themselves are illiterate and unable to help their children with school work at home. These children usually relapse into illiteracy after a few years.

Rationale for the One-Classroom School

Under the above circumstances there was an obvious need to find a radical solution for the problem of illiteracy. The National Council for Education, Scientific Research, and Technology studied this problem with the Ministry of Education. As an outcome of this study, it was first decided that all children should enroll in the primary school at age six and primary education should be adapted to the needs and specific conditions of the environment in order to avoid, as much as possible, the tendency toward leaving school at too early an age. Plans were drawn to achieve these aims. But until these aims are realized, which may take as long as five or six years, something should be done immediately to alleviate the problem of illiteracy.

It was thought that the procedure most suitable at present should be the establishment of what is called the one-classroom school. The project's aim is to provide educational services to villages and remote areas in order to absorb children who missed enrollment or who dropped out of their schools, but whose age is still within the compulsory school age. The parents of these children would be persuaded to let them resume education in this particular school. Children who relapsed into illiteracy but are still below the age of 14 could also be admitted.

The one-classroom school does not substitute for the primary school, it complements. It differs from the primary school in being more flexible and more able to adapt its ways to local conditions. It is free from the routine which controls the traditional primary school. Any child between ages 6 and 14 can be admitted at any time of the school year, regardless of his previous education and without any formal application or any cost. The aim is to eliminate the main cause of illiteracy.

Planning for the One-Classroom School

In April 1975, the National Council for Education and Scientific Research prepared a paper to be used as a guide for the proposed one-classroom school and shortly thereafter the Ministry started a pilot experiment with the opening of a number of these types of schools. A workshop was held during June 1975 to draw up the detailed plans. This workshop produced a comprehensive document to be used as a

teacher's guide. It included the aims of the school, curricula, methods of teaching with model lessons, and models for evaluation. Copies of this volume were sent to all educational administrations in the governorates.

At the recommendation of the National Council for Education, the Ministry of Education also approved a five-year plan by which 1,000 schools of this type are to be established every year. They are to be distributed all over the country with certain priorities to remote areas and deprived communities. The number of students in each classroom should not exceed 36 or 40. If more students apply, the school may have two classes instead of one.

To distribute the first 1,000 schools among the 24 governorates, a questionnaire was prepared and sent to educational authorities. They were asked to indicate their needs for this kind of school, the areas that should be given priority, how far each area was from the nearest primary school, where the school would be located, and personnel available for teaching--their qualifications, experience and vocations, etc.

A preliminary survey of children between 6-14 years of age who had not attended the primary school or had dropped out was made in remote villages.

All this information was used to draw a plan for the distribution of the schools. About 900 schools for the school year 1975-76 and another 1,000 for 1976-77 were officially approved to open.

A meeting was then held in September 1975, for all the leaders responsible for this project in the governorates. The object of the meeting was to arrive at a common understanding of the aims of the project and discuss ways of overcoming obstacles or problems involved in implementing the plan.

Before starting these schools in October 1975, each educational administration in the governorates held a 21-day training program for the selected teachers, because teaching the one-classroom school needs certain skills and abilities to deal with a heterogeneous group.

Program Goals

The aims of the one-classroom school do not coincide with the aims of the primary school; they complement. The one-classroom school is a system that can be considered parallel to the system of the primary school. Its main goal is to eliminate the cause of illiteracy by providing suitable education to particular target groups, for particular outcomes.

Clientele

The program provides educational opportunities for those who missed the years of regular primary schooling for various

reasons, who dropped out of primary schools, or who relapsed into illiteracy after finishing primary school years. These individuals may include children still of compulsory school age or adults. In this way, the project contributes to the literacy campaign by working with young illiterates before they reach adulthood and before they become too busy earning their living and supporting their families to attend literacy classes. The project also provides an opportunity to those who wish to continue their education in the preparatory school (junior high school).

Another important aim of the project is to prepare the learners for vocational training in centers for vocational training which require a certain minimum standard for admission.

Program Outcomes

In order to accomplish its goals for educating target populations, the one-classroom school must be more flexible in its structure and content to deal with the problems and difficulties unsolved by the regular primary school. The school system must be designed to accomplish particular outcomes. Some of the functions with which the one-classroom is charged include the following:

- To develop the learner's skills in the Arabic language in reading, writing, comprehension, and expression to such a level that the learner will not relapse into illiteracy
- To develop the learner's skills in arithmetic to enable him to deal successfully with others in his community
- To help the learner adjust socially and understand his environment, including the explanation of natural phenomena, the causes of diseases, and the falsity of many superstitions
- To prepare learners for admission to vocational training centers, if they wish to enter.

Program Characteristics

In order to fulfill the functions and achieve the aims already mentioned, the one-classroom school should have the following characteristics:

- heterogeneous groups of learners as far as age and level of achievement are concerned
- working hours dictated by the current circumstances of the community
- buildings and equipment suitable to its functions and aims
- a flexible and comprehensive curriculum relevant to the community and adaptable to the level of achievement of each individual learner
- open channels of communication with surrounding schools.

Role of National and Local Governments

Responsibilities of the Central Ministry of Education

The Central Ministry of Education has established a special administrative section to implement the directives of its five-year plan. The new administration has responsibility for teacher guidebooks, textbooks, supplementary educational materials, a school evaluation system, financial regulations, newsletters to teachers and administrators, a yearly conference, a public relations program, and coordination of all involved groups.

Responsibilities of Local Educational Authorities in the Governorates

Local authorities are responsible for the implementation of the project in the governorates. To do this, they may consult with the Central Ministry of Education and ask for expert opinion or advice.

In each governorate, the Director General of Education establishes a special administrative section which is responsible for the implementation of the project and for its follow-up and evaluation. This administrative section provides information and maintains a public relations program to ensure support for the project. This program strives to convince people of the importance of the project and its goals. It also takes care of all the administrative work--for example, purchasing and maintaining the equipment and furniture of the school, paying salaries of teachers and other workers, and providing transportation for supervisors to visit and evaluate schools in different parts of the governorate. Local training programs for teachers engaged in the project are organized by this section.

At the end of the school year, the special administrative section holds a meeting for all concerned with the project in the governorate to study and evaluate its progress and to plan for the work of the following year.

Organization and Operation of the One-Classroom Schools

Selection of Teachers

Teachers for the one-classroom school are selected from among the following categories: (1) retired teachers willing to serve, (2) educated women in the community, (3) recent graduates of the universities who are conscripted for public service for one year in the literacy campaign, (4) educated and cultured persons in the village, such as the Imam of the mosque, the public registrar for marriages, etc.; and (5) secondary school students and students of teacher institutes for primary schools willing to contribute spare time for

teaching experience.

Policy for Student Achievement and Attendance

The learners in this school are divided into three groups according to their levels of achievement. The teacher uses the achievement tests prepared by the General Administration for Primary Education to evaluate the students in his school and to distribute them among the three levels of achievement. Through discussions with students, the teacher may use his own judgement to determine the level most suitable for each student. Any student can move at any time during the school year from one level to another.

The duration of the school year is ten months. At the end of each year, the teacher decides on the promotion of students from one level to the next, according to the results of continuous evaluations. Students who achieve the relevant levels of any grade in the primary school are permitted, if they desire, to move to the primary school, provided their age falls within the age group of the particular grade.

The one-classroom school operates five days per week. The working day is only three hours. This makes a total of 15 hours per week. The teacher is free to arrange the time of work to suit the circumstances of the learners. The school may thus operate in the morning, afternoon, or evening, providing great flexibility.

A Flexible Curriculum

School curriculum proposed by the Ministry of Education is only in general outline, to allow teachers flexibility in adapting its details to the school environment. A detailed teacher's guidebook, prepared by the Ministry of Education to supplement the curriculum, contains useful suggestions and alternatives for the teacher. The teacher uses whatever audiovisual aids are available, as well as the resources of the community and nearby schools.

Because the students in the classrooms are divided into three groups or levels, each group may be studying a different subject or activity during the same period of time. Evaluation of student progress is continuous. At the end of each month during the school year, tests are used as instruments for evaluation. After five months (the middle of the school year), more comprehensive testing is carried out to determine the general level of achievement of each student. According to the results of this testing, certain students may be allowed to move to a higher level. At the end of his studies, any student in the school may apply to sit for the public examination of the Primary School Certificate.

Supervision and Guidance of Teachers

The supervisor of the primary schools is asked to visit and guide teachers of one-classroom schools in his area of work. He usually spends a period of two days or longer in each school; during this time he prepares and gives model lessons, evaluates the work of the teacher, and cooperates with the teachers in overcoming problems encountered. The supervisor also arranges for the teachers to exchange visits and experiences with the teachers of the neighboring primary schools. This arrangement can lead to closer professional relationships among the teachers.

At the end of each school year, the supervisor presents a detailed report on his project schools. In this report he discusses progress and problems. He also suggests practical solutions. This report is presented to the governorate at the annual conference.

Financial Support

The local educational authorities in the governorates provide project schools with available furniture, books, equipment, etc. The primary school nearest to the one-classroom school is responsible financially and administratively for its support. However, the local educational administration is required to allocate a certain budget, no matter how small, for this kind of school.

Preliminary Evaluation of the Project

During the summer of 1976, meetings and conferences were held in each governorate to discuss and evaluate the work of the first year of the project. The central Ministry of Education then received reports from the local educational authorities on the results of the first year and suggestions for future work. By January 1977, the Ministry of Education had prepared a comprehensive report on the project during its first year and proposed action during the second.

Number of Project Schools

The total number of schools opened during the first two years of the project was 1,600. This is only 84% of the total number officially approved for these two years. Some of the governorates apparently had not been able to activate the full quota of schools they had requested. Some governorates explained that they had to close schools in certain areas because of lack of attendance. It was therefore suggested that a stronger public relations program be carried out in such areas. The Ministry of Education and local educational authorities will take this recommendation into account while planning for the succeeding years of the project.

Student Population of Project Schools

During the first years of the project, 26,000 students attended the schools. Of this total, 80% were children who had had no opportunity to go to the primary school. The one-classroom school thus provided opportunities for some kind of basic education to children in remote and deprived areas. However, only 15% of the students were children who had dropped out of the primary school; the remaining 5% were children who had relapsed into illiteracy. Since almost equal numbers of children do not attend school, drop out, and relapse into illiteracy, the student population of the one-classroom school should be almost equally divided between these three groups of students. The actual numbers of those who enrolled, however, show that the project does not seem to be attractive for the dropouts and even less so for those who relapse into illiteracy.

This situation needs further analysis and study by all those concerned with the project. If it is found that this lack of interest among members of the older groups is due to their engagement in occupations for earning a living, then the curriculum of the school should emphasize more practical training in the community and preparation of students for admittance in vocational training centers. Parents should also be well-informed of the school's goals. More efforts should be made to secure the cooperation of the local institutions in the community, such as the mosque, the church, the cooperative society, the political organizations, etc.

The number of students attending school decreases with the increase of age. Over 40% of the students who enrolled during the first year of the project were 6-8 years old. Students of ages 12-14 constituted only 15% of the total number of students.

Suggested Curriculum Revisions

Some of the reports suggested increasing the number of weekly hours in the school from 15 to 18 in order to enable the school to give more time to Arabic and arithmetic.

Regarding the preparation of special books for these schools, reports pointed out the need for a re-examination of the curriculum to emphasize its relationship with the environment and the community. This revision of the curriculum should be done in the light of experiences gained during the first two years of the project.

Needed Teacher Training

The most serious difficulty that faced the program in its initial years was the selection of teachers capable of teaching in this type of school. The unavailability of suitable

teachers in several remote areas resulted in the postponement of opening schools in such areas.

Most of the teachers employed in the project were not professionally prepared. Successful teaching in the one-classroom school needs certain abilities, skills, and background experiences. The three-week training program attended by all teachers before starting the project seemed insufficient for the preparation of the nonprofessional teacher to work in these schools.

In some governorates it was necessary to use one of the teachers in the nearby primary school. This teacher was usually found to be more successful and more productive than others. It meant, however, that the one-classroom school had to operate only in the evening or afternoon.

Several evaluation reports suggested that the teachers selected for this project should receive longer periods of training. These reports also emphasized the importance of devising a more comprehensive program for supervision and guidance for the teachers. Good teachers attract more students and larger enrollments. They usually gain the confidence of parents and make them believe in the value of sending their children to the school.

The Ministry of Education is now devising a more appropriate teacher-training program for the project. The revised program includes training for prospective teachers for future responsibilities as leaders in rural communities, where they will provide social services and carry out adult education programs. They will be trained to work in the formal education of the primary school as well as in literacy campaigns and in the one-classroom schools.

(For further information write to Dr. Yusef Salah El-Din Kotb, Former President, Ain-Shams University, Cairo, Egypt.)

CASE STUDY #3

Making Teacher Education Responsive to Universal Primary Education in Nigeria

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The Introduction of U.P.E.

The concept of Universal Free Primary Education (U.P.E.) stemmed from the realization that education is necessary for both progressive leadership and enlightened followership. The first attempt at the introduction of the concept in Nigeria dates back to 1955 when the Government of Western Nigeria inaugurated a scheme for the provision of a six-year free education for all the children in the region ages 6-12. Among other things, the plan included a massive teacher education program. It was envisaged that about 170,000 pupils would be enrolled. But in January 1955 when the scheme was launched, 547,760 pupils turned up--a 222% increase over the original projection. This was the first consequence of planning without facts.

For political reasons, the Eastern Nigerian Government quickly introduced a similar U.P.E. scheme in 1957. The consequences were dramatic. From 1956 to 1975 the school population in the region increased by 25%. Over 10,000 new teachers were needed, an increase of 30%, although of these, only 27% were qualified as teachers. The increased cost of primary education in the region was tremendous--a 210% increase. Likewise, the cost for teacher education increased by 42%.

Both western and eastern Nigerian schemes were purely for political expediency. The latter failed after one year of trial; fees were again introduced in some primary classes in January 1958.

National Adoption of U.P.E.

At the 1961 Addis Ababa Conference of African States on African Education, it was agreed that by 1980 all African states should achieve universal, free and compulsory primary education. Nigeria has planned to achieve the full Addis Ababa target by 1979.

The first nation-wide Universal Primary Education scheme in Nigeria was launched on September 8, 1976. The rationale for the introduction of the scheme, as contained in the Third National Development Plan 1975-80, is the recognition that Universal Primary Education is a prerequisite for equalization

of educational opportunities across the country. Ultimately, a free and compulsory system was envisaged. The plan was to start as a free and universal system in September 1976, and to become compulsory in 1979.

Statistical Implications of U.P.E.

It was estimated that when the scheme commenced in September 1976, the primary school population would jump from 4 million to 7.4 million and eventually to 15 million by 1982. It was estimated that with the start of U.P.E. 2.3 million children would enter grade one in September 1976. The actual enrollment was 3 million, an underestimation of 30%. Total primary school enrollment after U.P.E. was 8 million, or 9% greater than anticipated.

These phenomenal increases in school population will naturally have tremendous and far-reaching implications for teacher education. In 1972 there were 130,066 teachers in the primary schools throughout Nigeria: of these teachers only 85,587 had received any training and the 34% remaining had received no training whatsoever. There are now approximately 200,000 primary school teachers of all categories. Since 68,000 have no training at all, the actual number of qualified teachers is about 132,000. Based on the ratio of 1:35, under U.P.E. Nigeria will require 402,170 primary teachers by 1982. This means that Nigeria will require no less than 270,000 qualified primary school teachers between now and 1982, requiring the production of 54,000 newly qualified teachers annually, by 240 Nigerian Teacher Training Colleges now existing. The needed supply of qualified teachers demands that each college produce 255 teachers annually. To achieve this, Nigeria will require an additional 8,000 teacher educators between 1975 and 1980.

Yet with all these quantitative problems, the greatest problem with regard to primary school teachers is that of quality

Problems: Lack of Readiness

By launching the universal free primary education in September 1976, Nigeria attained her greatest milestone in the field of organized education. *Because of U.P.E., one out of every two Africans on the entire African continent attending primary school is a Nigerian.* But, unwittingly, we have at the same time launched a crisis of supply and demand in the educational system. Everywhere schools are in short supply, classrooms are in short supply, equipment is in short supply, teaching materials are in short supply--indeed, everything with education is in short supply.

Nigeria was simply not ready for the launching of U.P.E. on September 8, 1976. For instance, in the Anambra State, one of the most advanced states educationally, only one-fourth of the classrooms required for the successful take-off of the scheme

were ready. Of the estimated 29,716 teachers needed, only 58% were recruited. Of 92,581 desk sets required, less than 9% were supplied. Part of the reason for this state of affairs is that education, with the launching of the U.P.E., does not seem to have received the high priority it had received in the previous Development Plans before U.P.E. In the first Plan of 1962-68, education received a sector investment of 10.3% of total capital allocation. In the Second National Development Plan, education ranked second, receiving 13.5% of the total investment. But in the third Plan, education has been allocated only 7.5% of the gross public sector capital investment by receiving only $2.5 billion out of $33 billion total allocation. It is becoming increasingly clear that mass education is not an end, schooling is not the same as education, and education for all may turn out to be education for none. The problem is meeting the challenge posed by the crisis of supply and demand. Before consolidating the U.P.E. program, some other far-reaching decisions that strain the already strained resources are being made. The most recent decision is the announcement by the government that all technical education will be tuition-free and boarding-free and that University education will also be tuition-free beginning with the school year 1977-1978. At the same time, subventions to the university have been slashed, and the university vice-chancellors are complaining loudly.

However, with all its attendant problems, U.P.E. is here with us today, and U.S.E. (Universal Secondary Education) may be here tomorrow. It is imperative that we plan today to adequately meet the challenges of tomorrow.

Crash Programs for Teacher Education

The introduction of the U.P.E. has necessitated crash programs for teacher education and has brought a variety of people into the teaching profession. The following "teachers" can be found in schools today: people who were unable to enter secondary school because of poor academic background or who dropped out of secondary school for the same reason; people who failed the school certificate examination; and people who failed in other occupations. A valid concern is that teaching in Nigeria is becoming a profession for failures, the last hope of the hopeless.

The introduction of the U.P.E. in Nigeria has necessitated the creation of a cadre of teachers called auxilliary teachers and a crash program for the training and education of primary school teachers. The auxiliary system involves massive recruitment. Through it, people who have had from six to eleven years of formal education without teacher training are recruited as teachers. In addition, the training program for the Teachers' Grade II Certificate, which is the basic professional certificate for teaching in the primary schools, has

been organized as follows: a one-year program for West African Certificate holders; a two-year program for those who failed the West African School Certificate examination; a three-year program for those who passed Modern III and those who hold a Government Class IV Certificate; and a five-year program for holders of the First School Leaving Certificate.

Prior to this crash program, holders of the West African School Certificate completed a two-year course before obtaining the certificate. In order to have enough people standing in front of the over-crowded classrooms, anybody who is willing and has had at least six years of formal education may be employed to teach! After several years one may enter one of the 240 Teacher Training Colleges for one of four crash program courses.

Need for Teacher Educators

Not only were crash teacher-training programs necessary, but well-qualified teacher educators were needed for implementation of the curriculum. In 1971, for instance, a total of 1,029 teacher educators taught in Grade II Teacher Colleges in five of the Nigerian States. Of these, only 41% were graduates. Although it is not known how many of these graduate teachers possessed any teaching qualifications, it is not uncommon to find that a good many of those teaching in Grade II Teacher Colleges are themselves not professionally trained teachers.

U.P.E.--A Summary of Its Progress

The present system of producing primary school teachers is most unsatisfactory. We are sacrificing quality in favor of quantity. Those who are to educate must themselves be educated. Many are almost illiterate, and the present diversity of primary school population requires specially well-trained teachers. Under a selective and an eliminative system, the fittest survive despite the inefficiency of the teacher. But under a U.P.E. system with inadequately prepared teachers, only mass schooling, rather than mass education, occurs. The ability to hold chalk in front of a class does not qualify a teacher any more than the ability to carry and fire a gun qualifies a soldier. Teaching is a profession. It requires sound general education, an adequate period of professional preparation, and the possession of specialized knowledge and skill. Its practice is based on clearly defined, ethical principles.

To insure real success of U.P.E.'s massive program, there must be more than enough willing warm bodies to keep order in the classroom. The issue, then, is how can a nation equalize educational opportunities and still achieve excellence? Must education for all mean education for none?

Recommendations for the Future of U.P.E.

Nigeria, with her present resources, can achieve both equality and excellence. But this requires the re-orientation of our national values and national priorities, as well as the formulation of an acceptable national ideology.

The best of the present Grade II teachers are those with the West African School Certificate and one year of professional education. Even with this group, it is generally the poorest school certificate holders that elect to enter the teaching profession. The rest enter the universities or other higher education institutions.

Clearly, from the experiences of Nigeria, developing countries are in a dilemma with regard to mass education. Mass education is necessary and desirable for efficient leadership and effective followership, but it is becoming impossible for these nations to provide real mass education under the present delivery systems.

One of the most effective methods to bring about desirable educational reforms is through adequate reform in teacher education and training. The first step needed to bring about reform in Nigeria is the abolishment of the system of auxiliary teachers who have not received any formal professional education. The auxiliary teachers may be doing more harm than good to education and to the teaching profession. A major factor blocking the recruitment of competent people into the teaching profession is the low status often ascribed to teachers. One solution might be to halt the current falling standards of education in the country by the restoration of the traditional respect enjoyed by all grades of teachers in the past. But in the present day and age, teachers cannot be expected to enjoy parity of esteem with the other professions without parity in education and training.

To achieve this parity, primary school teachers should be holders of the Nigeria Certificate in Education, gained after three years of post-secondary education or the equivalent. In the interim, the crash program of giving one-year professional training to school certificate holders should continue. After junior secondary school, the prospective primary school teachers should enter teachers' colleges for a four-year course; 13 years of formal education.

The decision-makers of this great nation of Nigeria must look more critically into this vexed issue of teacher education. Education may unlock the door to modernization, but it is the teacher who holds the key to that door.

(For further information write to Professor B.O. Ukeje, Alvan Ikoku College of Education, Owerri, Nigeria).

Section Two:

PREPARING EDUCATIONAL PERSONNEL FOR NEW ROLES

Section Two on new roles, opens with SMART's introductory paper which, by relating education to the process of national development, establishes the need for educational personnel in a wide variety of areas outside of the school.

REANGSUWAN, in the first case study, describes the program in Thailand for preparing rural school teachers to work with adults in rural areas. Next, BERNIER and VEENE describe a program which prepares students for non-school educational positions in an urban area in Wisconsin, U.S.A. MEENA's case study on Tanzania's experience in recruiting and training teachers for adult education suggests new functions and roles for teacher education. Finally, new educational roles for those preparing to be rural teachers in Mississippi, U.S.A., is the subject of OREN's case study.

Issues in Teacher Education for African Countries

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Introduction

I am uncertain about the word "African" in the title of this paper. It refers to a very vast continent, with heterogeneous cultures, languages, politics and problems. It would, therefore, be extremely difficult to confine all the educational issues of the whole continent into this short paper--that is, if I had the encyclopedic knowledge to undertake this task. Instead, I am attempting the weaker task of focusing on the African countries which are members of the Association for Teacher Education in Africa (ATEA). These are nearly all the former colonies of Britian south of the Sahara together with Ethiopia and Liberia. Being a Sierra Leonean, I will obviously draw heavily on my country for the generalizations I make.

Three Major Problems Relevant to Education

Modernization

These countries have three major problems which, to my mind, are relevant to education. The first is their urgent quest for modernization. This quest is implicit in the theme of this ICET Assembly, for "modernization" is one of the concepts closely related to "development." There are countless definitions of the modernization process, but one which related it neatly to the education function is given by historian E.C. Black:

> ". . . Modernization may be defined as the process by which historically evolved institutions are adapted to the rapidly changing functions that reflect the unprecedented increase in a man's knowledge permitting control over his environment, that accompanied the scientific revolution. This process had its origins and initial influence in the societies of Western Europe, but in the nineteenth and twentieth centuries these changes have been extended to all other societies and have resulted in worldwide transformation affecting all human relationships."

The countries of Africa are all caught up in the modernization process. They are harnessing their physical resources and their human talents and skills to catch up with countries like the USA, West Germany, and Japan in technology, infrastructural amenities and the quality of the lives of their peoples. Although it is a hopeless race, to travel hopefully is better than to arrive.

Rehabilitation of Local Cultures

The second problem is a rehabilitation of the traditional and native cultures of the peoples of Africa. This is part of our search for identity. The colonial experience inflicted cultural schizophrenia on us: we became men and women of two worlds, African by birth and home upbringing, but unsuccessful Westerners in our intellectual modes of thought and cultural reflexes. The pressures of imperialism and the ignorant enthusiasm of missionaries persuaded us to despise the art forms, spiritual experiences and world views of our ancestors. To succeed in the colonial world, the African had to become assimilated into the western way of life. However, there is now an urgent need to revive our cultures and teach our young to take pride in Africa and being African. "Black is Beautiful" and "Negritude" are movements in this direction. The Festival of Arts and Culture (FESTAC) and similar manifestations are part of the process of rehabilitation.

Political Stability and National Unity

The third problem is the constant and often traumatic search for political stability and national unity. Just before the emergence of the new African states, the Banana Republics of South America were examples of political instability. Now the African states demonstrate a closed loop of political instability as country after country totters from independence--to the collapse of the Westminster model of government--to military coups--to one-party dictatorships--to military coups again. The main causes are the tribal diversity in each country, creating jealous antagonism; the ignorance of most Africans of complex, modern politics resulting in exploitation by politicians; and the low per capita income of the average citizen, compared with the ostentatious lifestyles of the few.

Education as a Solution to Problems

Faith in Education

Most African leaders believe that education will help to solve the problems. Ours is an age of faith in education. The late Kwame Nkrumah's main creed was: "Seek ye first the political kingdom . . ." Today, disillusioned as we are with politics, we are saying that if we find the educational kingdom

and conquer it, all other things will be added to us. This faith in education as a social panacea puts great responsibility on educators.

Therefore, the most important issue for education in Africa today is to work out strategies to solve these three problems. The role of education in bringing about desirable development has never been in doubt. As Professor A. Babs Fafunwa, one of the wisest of African educationists, put it a few years ago,

> "As I see it, teacher education in Africa should be basically related to every phase of development . . . be it in the social, political, or economic spheres of activities . . ."

As I have written elsewhere:

> " . . . the awareness of the problems of development and the working out of strategies for their solution should, through the university, reach the lower levels of the educational system . . . Awareness should be generated in every university student, but it will be most effective, as it will have a multiplier effect, if teachers in training know what development is all about and are committed to its goals . . . If education is not a sufficient, it is a necessary, condition for development."

Content, Skills, Attitudes

For the revival of our cultures, we need three aspects of education: content, skill, and attitudes. Much disciplined research has to be done in the cultural and social history of Africa to offset, on the one hand, the disparaging picture painted by missionaries and misguided do-gooders of the malevolent savage who practiced pagan and satanic rites; and on the other hand the romantic picture highly retouched by Africans and their descendants in the diaspora of the arcadian peace of Africa before the white man came and trampled on Eden. This balanced reconstruction must find its way into scholarly works, school textbooks, and ordinary reading of people in general.

Skill is needed to both continue and revive the traditional arts of Africa which made the Benin bronzes famous, gave us a vigorous modern art form through the paintings of Picasso and much of modern sculpture, and enriched and invigorated music through jazz, the high life and reggae. The revival of African dance forms and of narrative art has gathered momentum with the creation of state subsidized dance and cultural troupes and the worldwide recognition given to such writers as Chinua Achebe.

Unfortunately, most African educators see their role as only

developing the cognitive skills of their students, and they put little or no emphasis on affective development. Many teachers are hostile toward cultural subjects which they see as interfering with their main job. These subjects have become the Cinderellas of the educational system. Even those who teach literature go through the texts as cognitive, not affective, artifacts. The pupils, at best, pass the examination at the end, but they do not enjoy their encounters with these works of art. African music and dancing within the modern context become the cultural frills of conferences and part of the tourist circus, but not the important concerns of schools and colleges.

Signs of enlightenment and change in attitude are showing in some secondary schools and departments of African studies in the universities. They demonstrate how education can promote a positive attitude toward our art forms and give us a proud identity in the world. Teacher education must transmit this attitude to a larger body of teachers so that it can permeate the schools.

Education's Effect on Politics

At first glance, it seems that education can do very little to promote political stability and national unity. Schools teach pupils to be critical, to question, and to accept nothing but the truth. Politics, even in the old democracies of the West, thrives on propaganda, the hiding of real motives for action, the manipulation of minds, and the half-truth. In those stable societies, where there are common and manifest links of culture, language, traditions, and loyalties binding citizens together, open democracy can be practiced with all the shadow-boxing of government and organized opposition, the relentless pursuit of truth and full autonomy of free speech. In our societies, political balance is precarious, and some kinds of truth can easily capsize it. Thus a tension exists between the educational system and the political power in all societies. It is not surprising that modern revolutions are often spearheaded by students, who find too uncomfortable the tensions between the ideal world taught in lectures and books and the reality of the world of politicians and military rulers.

In Africa rulers have not cultivated tolerance for students' violent search for liberty or their passion for exposing uncomfortable social or political truths in public. They jail students and their teachers; in some desperate cases they mow them down with guns. Besides such desperate actions, rulers have a tendency to tighten the educational purse strings after embarassing student demonstrations.

Speaking in Kampala, Uganda, on the subject *National Goals and Political Philosophies in Africa--the Implications for Teacher Education*, just after the overthrow of President

Milton Obote, Professor Ali A. Mazrui asked three questions:

> "What is a teacher to do in the face of political instability which is either immanent or active? What national goals ought to be an important part of education, regardless of changes of regimes? Where should indoctrination come into the syllabus and in what form?"

These questions are still being asked all over Africa today.

Problems as Literary Cliches

We have now looked at the main issue stemming from the three problems mentioned at the beginning. There are other issues worthy of some discussion.

Supply and Demand

One of these had become a cliche of the literature: the gap between the almost insatiable demand for education in Africa and the restricted supply of student places and teachers. The demand for education does not seem to obey the laws of diminishing returns. All sections of the population see in formal schooling the best means to upward social mobility, to wealth and the power that wealth brings. Once you embark on some form of universal primary education you cannot control the demand. Parents with only basic education seek secondary education for their children; parents with secondary education seek college education; the next generation starts from a platform of higher expectations to begin another cycle of aspiration and achievement.

But most African governments cannot afford to build all the schools and colleges needed to meet this demand. Apart from lack of money, African populations are badly skewed toward children of school age. There are not enough literate adults to draw from to meet all the demands for good teachers or to supply other important sections of the manpower market. Therefore, many teachers are unqualified and untrained, half a page ahead of the pupils they teach.

Strategies have been invented to deal with this problem: in-service training, crash programs, vacation courses, correspondence tuition, teaching by radio, or a combination of these. These are helpful but do not meet all the needs. They seem inadequate both in quantity and quality to solve the problems brought about by universal primary education (UPE) in Nigeria and elsewhere and the problem of the teacher who is almost illiterate, badly motivated, and unable to gain much from any course that assumes literacy and numeracy.

A critical demand exists for teachers of the natural and applied sciences, technical subjects, mathematics, and commerce. African schools have a tradition of education in the liberal arts. These are cheaper to teach in terms of

apparatus and supporting equipment. Also, a demand exists for graduates in these subjects as clerks, teachers and preachers because the imperial economic system did not encourage manufacturing industries in the colonies. Thus, the white-collar worker was the best paid and most respected worker in colonial society. When independence and the pressures of modernization came, teachers of technical subjects were extremely scarce. This scarcity is still with us because education cannot compete with industry in terms of salary, status and fringe benefits for graduates in these disciplines.

Relevance

Another issue has also become a cliche: the search for relevance in education. A word of warning about the use of this word is appropriate here. *Relevance*, being an "in" word, is often used rather carelessly by educationists. Take Latin as the extreme example. It is foolish to say, as many popular educationists do, that history or philosophy or Latin is not relevant in African schools and colleges. For someone who is going to study French at some depth, Latin is very relevant because French is a romance language. From a utiliatrian point of view, a sound knowledge of French--and, therefore, of some Latin--is essential for top civil servants and businessmen who communicate at sophisticated levels with the Francophone African.

When people use *relevance* in the context of African education, they often mean that given our limited resources and our most pressing problems, curriculum subjects should be carefully selected according to a hierarchy of importance, with such tool subjects as language and mathematics at the top and others at the bottom. The working out of this scheme is of considerable importance to education. From such a scheme we can project the skills, knowledge and competencies that teachers need to enable them to teach these subjects to children who will live and work in the 21st century.

An important aspect of the content issue concerns the unfamiliarity of Western education to us and its tendency to alienate our students from the lives of their families and from the rural areas where the majority of our people live. Many educational conferences have discussed this problem of alienation and proffered solutions which do not seem to work. Educators must continue to look at this issue because Africa will long depend on the rural areas for its wealth and its spiritual vitality.

Problems of Teaching Teachers

New Philosophy of Education

There are also problems related to the content of education teachers receive in teacher-training colleges. In foundation studies, the usual offerings are philosophy, sociology, history and comparative education. This mixture of subjects has been copied from schools of education in the West, so the focus of the West is also followed.

Take philosophy of education, for instance. A distinctly Africa-oriented philosophy of education has yet to emerge. Instead, courses review the ideas of the great educators who shaped the systems of the West, and explore western systems of educational philosophy. These ideas and systems are meaningful in Africa inasmuch as we share a common educational heritage in the formal system. But no department or college has yet fashioned a course that is centrally relevant to the African situation in examination of the key concepts that are shaping our educational thinking: "Relevance," "standards," "the right to education," "informal education," and "culture." These concepts need to be related to statements on education made by ministries of education and African educationists. A careful study of President Julius Nyerere's *Education for Self Reliance* would pay greater dividends than an exegesis of the *Republic* of Plato.

Curriculum Revision

There is also need for a rethinking of the curriculum. For a fuller understanding of the processes that shape education in Africa, economics and cultural anthropology are important subjects for providing perspective. Our students will not fully understand the place of education in the modernization process without some knowledge of economics, nor can they analyze their cultures without some anthropology. Political science is a less important foundations subject because of the fluidity of the practice of politics in Africa. Before a pattern from one form of government can be abstracted for study, events and politicians and the military overtake it and empty the generalizations of predictive power.

Language Difficulty

Another great problem is one of language. Africans use the language of the former metropolitan powers for teaching and learning, not their mother tongues. Since a child learns best in his mother tongue, the language difficulty compounds other learning disabilities the African child might have. To be a successful student in Africa, one must not only have intelligence and the other attributes that help learning, one must also be good at languages. Of course, many, many African

children--like children all over the world--cannot be bilinguals; they find the school work a continuing struggle, which ultimately overwhelms them.

There are excellent reasons for teaching English in our schools. English is the most useful international language today for access into the world of technology and many other important domains. The point is that basic education, at the primary school stage, should be given in the medium of the child's mother tongue. This has been demonstrated quite credibly by the educationists connected with the Six-Year Experiment at Ife, where the experimental group of primary school children are taught school subjects in their native language Yoruba. They are also taught English, with great success, by teachers using second language methodology.

The implications here for teacher education are immense. Most teachers operate only orally in their own languages, using English for written communication for formal and official occasions. Because teachers use their mother tongues in a restricted way, they themselves have to be taught the use of the full range of their mother tongue before they can use it as a medium for teaching. (In Kiswahili-speaking areas this generalization does not hold, as teachers are often competent in this language.)

Other implications for the curriculum involve the development of new materials in African languages. As the Ife Project in Nigeria has demonstrated, this is not easy. Linguists, curriculum developers, and subject specialists must collaborate to devise worthwhile materials.

An Experiment in Expanded Teacher Education

In Sierra Leone, we are experimenting at Bunumbu Teachers College with an integrated form of teacher education whereby education, health, agriculture, and the social services will work together to educate teachers not only for their traditional roles as classroom teachers, but also as community developers and innovators. Bunumbu, located in the agricultural countryside, is ideal for training teacher-leaders for a new education concept developed by the groups that worked on the *Sierra Leone Education Review*. This concept is the Community Education Center (CEC), which will be a school of basic education for both pupils and adults as well as a community center. As the *Review* reported:

> "The CEC's will serve three groups in the population: adolescents who have never been to school, adults who have never been to school, and adolescents who have completed most or all the primary school course but who are not going on to secondary school. As the proportion of youth who have attended or completed primary school

> rises, the number of those in the age group without prior schooling will decrease. As that happens, the CEC's will begin to serve post-primary school youth mainly. . . They will become eventually an opportunity for these young people to continue their schooling until the age of 15, although in a less formal context than the secondary school and with the major emphasis being upon teaching skills which are useful in pursuing one occupation or another."

The CEC's will draw heavily on local talent for the teaching of the arts and crafts and the work skills required in various occupational areas. It is an experiment in the synthesizing of the modern and the traditional, in bridging the gap between old and new, and in facilitating life-long education.

Need to Modernize Teacher Education

New demands on education are forcing teacher educators in Africa to consider new techniques and strategies to train the vast numbers of competent teachers needed today. One hopeful possibility is the increased use of the technology brought about by the electronic revolution: radio, sound recordings, television, video tape and so on. For instance, micro-teaching with an instant-play machine enriches practical teaching and maximizes the opportunities for positive learning. However, these sophisticated and delicate devices need a back-up of competent technicians, apart from teachers who can use electronic equipment as an integral part of the presentation, not as mere decorative additives. The developing countries of Africa, whicl. need the new technology desperately to improve the quality of their education, cannot afford it. As in so many other fields, they find it difficult to catch up with the affluent Joneses of the West in the use of educational technology. The equipment corrodes in their humid climate, it is difficult to repair, and spare parts are often difficult to replace because most of the models have built-in obsolescence.

Until very recently, teacher education in Africa was structured for a static society growing slowly in student numbers and absorbing change gradually. Today change is rapid and revolutionary. Education itself must change fast and drastically to direct this revolution. As the numbers of students explode, more teachers must be trained for new roles which have gone far beyond the traditional one of teaching small classes using textbooks and the chalkboard. Today's teacher must help develop the curriculum, counsel pupils and their parents, and lead in community development. A head-master has to manage a large school with all the complex

problems of maximizing scarce resources and achieving goals set by the expectations of pupils for a more abundant life and by the nation for modernization. As education touches families resistant to the new ways but compelled to send their children to school by the dictates of Universal Primary Education, other burdens are added to the work of the teacher. He has to find ways of reaching these reluctant school recruits, who come from non-supportive homes, so that their education can be relevant and worthwhile.

These new problems are transforming teacher education in Africa today. Faculties, departments and colleges of education are getting bigger and more differentiated in function. Fortunately, the challenges are attracting to education a number of bright young men and women who bring to the task enthusiasm, vision and new skills. Governments are beginning to realize that the quality of education cannot be improved without giving greater resources to teacher education.

In spite of these encouraging signs, much remains to be done. Universities need to give greater attention to the problems of teacher education and to encourage interdisciplinary research which cuts across faculties. There should be more regional and pan-African cooperation to better coordinate the various piece-meal efforts to solve these problems. Lastly, African educators need international aid to replicate solutions to teacher education problems that have proved successful elsewhere and to find new answers.

It is most appropriate that the XXIV ICET World Assembly explores here in Nigeria (which has, writ large, all the problems and perplexities of African teacher education except a desperate shortage of money) the best strategies for teacher education to meet the needs of national development.

CASE STUDY #4

Educating Teachers in Thailand for Integrated Rural Development

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The Program for Preparing Rural Teachers

At present in Thailand, there are 36 teachers colleges and 12 University Faculties of Education, most of them located in rural areas. All of these teacher education institutions are involved in rural development, and have incorporated rural development aspects into their regular training programs.

The general objective of these programs to train teachers for integrated rural development is to not only train students to become competent teachers, but also to train them to be catalysts for rural development.

Specific objectives are listed below:

- to condition student teachers to rural ways of life--its cultural and social structures and its lack of modern conveniences (electricity, adequate health services and facilities for recreation)
- to give student teachers practical training in simple skills directly related to rural problems
- to upgrade elementary schools, so that the quality of teaching is improved
- to develop closer ties between schools and communities, so that people will use the school as a service center
- to upgrade the rural teacher education institutions morally and qualitatively.

Economic and Social Background

Thailand is predominantly rural in character. Of the total population of 44 million, about 80% live in rural areas. Main income is derived from the cultivation of rice, corn, tapioca, sugar-cane and rubber. Economic development, to be meaningful, must involve the participation of the rural sector. Change-agents are, therefore, urgently needed in the rural areas. Teachers can be trained in this role. In rural areas they can play very significant roles as community leaders. To improve the effectiveness of teachers as change-agents, teacher education for rural development is needed.

The formal school system is 4:3:3:2--four years of lower

elementary, three years of upper elementary, three years of lower secondary and two years of upper secondary education. The first four years of elementary education is compulsory, and children between the ages of 8-15 are required by law to attend school. However, in practice not all the districts can provide seven years of schooling for everyone. After 1978, the school system will be changed to 6:3:3, with six years of compulsory education.

Graduates of the lower secondary school can branch out to vocational schools of various commercial, agricultural, and polytechnical schools. They can also enter teachers colleges to study for lower certificates in education. Those who continue in school for grades 11 and 12 (the upper secondary level) may try for universities or other degree-granting institutions, including colleges of education, but only about 10-15% can gain entrance into higher education.

The Need for Teachers: Problems in the Rural Areas

Although the living conditions of the rural population have improved, great deficiencies still exist. Problems arising from ill-health, malnutrition, pollution and ignorance hinder the path of progress. Dissemination of knowledge in all these aspects may help in alleviating the problems.

To be meaningful, national development must involve grassroots participation. In most rural areas, lack of understanding of how the system of government operates and what services are available often induces passive attitudes. Citizenship training through informal and nonformal education is needed to improve the situation.

The elementary curriculum which has been in use for the past 16 years is not relevant to the conditions and needs of the rural people. It is mainly academic and thus does little to increase earnings and productivity in the existing environment.

Presently, about 52% of lower elementary (grade 4) graduates proceed to upper elementary classes. The rest leave school for employment, many becoming farmers. Within 5-6 years, they usually become partially or totally illiterate. In rural areas, few reading materials are available to help them retain this skill. Functional literacy classes and small reading centers have been promoted in villages, but they are still inadequate for the need.

In remote areas there is still a shortage of teachers, although in urban areas the number produced now exceeds jobs available. However, it is difficult to find teachers for schools in remote and insecure areas.

Operation of the Program

Student Teacher Training

Selection of Students. Selection of suitable student teachers for participation in the rural program takes place 2-3 months before they go out to undertake practice teaching. The criteria for student selection are a background of rural life, initiative, proper attitudes, and good human relationships.

Orientation. The selected student teachers usually have to attend a one-week orientation program consisting of lectures and workshops. Apart from pedagogical knowledge, the students also study data of the particular schools and communities where they are to be assigned to practice teaching. Generally, the course consists of the following: (1) objectives, (2) activities, (3) information about the school and the community, (4) successful ways of working with people, (5) teaching methods in rural elementary schools, (6) practical subjects relevant to the needs of local people, such as handicrafts, agriculture, health, and hygiene--including latrine construction and fashioning utensils out of local materials, (7) principles and practices of rural development, and (8) role of student teachers.

Supervision of Students' Work. During the three-month period of practice teaching, student teachers are supervised by three categories of persons: (1) *headmasters*, who act as top administrators of the schools and have a great deal of experience in teaching and community work as well as the ability to supervise students; (2) *class teachers*, who supervise student teachers, give advice, and help to solve problems; and (3) *college supervisors*, who visit schools on a weekly basis to help student teachers and to consult with headmasters, class teachers, and other community development workers about the student teachers' work both in school and in the community.

Student Teacher Seminars. Student teachers meet together once every three weeks in a seminar at the teacher education institution to exchange ideas and information about their field work as well as to discuss ways of solving problems connected with their school and their development work for the community. The topics discussed at the seminar generally fall under the following headings: (1) problems arising from teaching and school development, (2) problems for the development of rural community, (3) planning for future activities, and (4) suggestions and recommendations for future action.

Cooperation with Other Agencies. Student teachers stay in their communities for only a short period. Their role, therefore, cannot be that of a leader, but of a catalyst to help bring about desired improvement. Because time is short, they must learn to cooperate with other development workers, such as agricultural extension workers, community developers, or

village headmen. Their youthful zeal and initiative are what is needed to spur on action.

Program Activities in the School

Many different activities are undertaken in school, depending on the circumstances.

Improving the Teaching and Learning Process. The shortage of well-trained teachers in remote rural schools means that the predominant teaching technique is what we call the chalk and talk method. Children do not find this method of teaching stimulating and, consequently, are not eager to go to school. In order to improve the teacher-learning process in school, student teachers are encouraged to undertake several of the following activities: (1) producing cheap teaching aids, (2) demonstrating methods of teaching, (3) providing remedial teaching to repeaters or slow learners, (4) developing tests, (5) promoting and improving the teaching of Thai, (6) developing supplementary readers, (7) developing lesson plans for elementary classes, (8) developing supplementary activities, (9) developing exercises for various subjects, (10) providing boards to carry notices and relevant information, and (11) promoting pupils' handicrafts.

Improving Conditions of Classrooms. Most rural schools in remote areas are in poor condition. Some have no desks or benches; others have no walls and no proper floors. Therefore, teacher education institutions encourage student teachers to carry out the following activities: (1) improving the classrooms, (2) organizing a reading room, (3) developing teaching aid rooms, (4) arranging a sick room and providing medicine, (5) arranging a demonstration classroom, and (6) making and repairing desks and benches.

Improving Hygiene and Nutrition. Parents in rural areas do not have much time to look after their children properly. Therefore, schools can set a good example, and student teachers are encouraged to undertake any of the following activities: (1) providing school lunches, (2) building latrines, (3) providing water supplies for the schools, (4) having the children examined by rural medical doctors, (5) providing drinking water, and (6) providing information about food and clothing.

Improving Buildings and Grounds. Activities to further this objective include construction of buildings for classrooms, a dining hall, student teachers' quarters, a place for recreation, a playground, driveways for the school, or repairing those already built.

Improving Agricultural Programs. This is one of the programs best able to help meet community needs as well as involve community members. Student teachers can help by encouraging kitchen gardening, raising chickens and fish, and planting fruit-bearing trees.

Conducting Inservice Education. This is important because teachers in rural schools are often out of touch with new ideas and need to receive encouragement and periodical training. Through seminars and visits, teacher education institutions can inform rural teachers about new teaching methodology, supervision of student teachers, and their role in rural development.

Program Activities in the Community

Student teachers who have received some training in community development must become involved in work for the community. Past activities carried out in the villages have included the following:

- helping to develop village and public welfare by improving roads and toilet facilities, digging wells, and building fences
- providing nonformal education for villagers through setting up reading centers, putting up notice boards, and organizing village meetings
- cooperating with government officials in giving advice and suggestions to villagers regarding agriculture, animal husbandry, and the use of fertilizers
- helping to improve standards of health, cleanliness, and nutrition in the villages
- promoting religion and local culture in the villages by joining villagers in religious rites and reviving interest in folk art and fairs
- organizing recreational and sports activities in the villages for the young and the old.

Roles of Student Teachers

Student Teachers as Members of the Community

Because student teachers live in the village during the period of student teaching, contacts between villagers and student teachers are often close. The student teachers are often asked to participate in village affairs, both formally and informally. They can regularly be seen at village festivals, soccer games, and religious ceremonies, all part of the village life. Frequently, they are requested to take an active part in such activities, such as arranging for visiting soccer teams to come to the village. Personal relationships are critical. As long as relations with student teachers are good, everything goes well. However, at times student teachers are not able to establish rapport with the community and they are not accepted as members of the community. The lives of student teachers are often difficult: either their role is confined within the school compound, or else they have to travel

to other villages or nearby towns to spend their evenings or weekends.

Because many of the student teachers are sons and daughters of farmers, they can promote the improvement of agriculture by engaging in conversation with the villagers about crops, water supply problems, growing conditions, and the market. If a problem arises or if a group of farmers is interested in knowing more about a particular topic such as the use of fertilizer, the student teachers can contact the agricultural extension officer and invite him to meet that group. In the far, remote villages where no leadership is apparent or available, student teachers are encouraged to play a leadership role.

The teacher education program tries to provide student teachers with knowledge of both governmental and voluntary resources and services available to rural communities. Furthermore, student teachers are expected to know how such services can be activated for the benefit of the community. Student teachers are given the opportunity and encouraged to experiment or to initiate any school or community development project where resources, however limited they may be, are available.

In their interaction with the community, the student teachers are sometimes perceived as sons and daughters, other times as local teachers, and in many cases as a combination of both fellow villagers and local teachers.

Community interaction usually falls into two categories: informal and formal. The student teachers are regarded as educated persons, as well as representatives of the teacher education institutions. Their presence is accorded some importance at religious and social events and at village meetings. Their presence at village functions and meetings is usually expected. Generally, male student teachers participate in village affairs more than female. The school principal and the school teachers who live in the village are expected to participate in village affairs with the student teachers. It is essential that the student teachers participate in these events or development projects if the student teachers expect the villagers to support their presence in the village and contribute to any school or village development projects which the student teachers plan.

Student Teachers and Village Development

Student teachers' main duty throughout the student-teaching period is to apply their knowledge and skills acquired in the classroom. Their role in village affairs is usually played after school hours. They are invited to attend village meetings. They can be a good source for assistance if a project needs extra assistance from outside sources such as the teachers colleges, the health officer or the agricultural extension officer.

Personal contact and personal relationships are usually a good means for the student teachers to establish rapport with the villagers. Generally speaking, the relationships are very often age-oriented. Young teachers relate more closely to the younger villagers and older teachers to older villagers. But the student teachers are trained to establish rapport with villagers of all ages. One study showed that the student teachers can get along better with the older group than the villagers of their own age. Personality factors have a strong influence on individual relationships. If student teachers keep to themselves or do not participate in community affairs, they will be mistrusted. In arriving at the village, the student teachers are advised to meet the village headman, the aged and highly respected villagers, and members of the village development committee. The latter are of importance because membership in the village development committee cuts across all age groups.

Problems Encountered

A number of problems have been encountered in the programs for preparing teachers for rural areas.

- The number of student teachers is large, while the number of college supervisors is insufficient. Therefore, the standard of practice teaching is not as high as it should be.
- The teacher education institutions lack means of transportation to rural schools in remote areas, so student teachers cannot be sent to teach in far, remote schools. Some of them have been forced to practice teach in urban schools.
- In a number of schools, there are not enough teachers for each class, so the student teachers must sometimes take over the responsibilities of class teachers without proper supervision.
- Some cooperating teachers are not qualified to supervise so the student teachers are forced to learn on a trial-and-error basis.
- Student teachers may encounter weak leadership, lack of initiative, and inertia in the villages.
- The supportive role of teachers is difficult to communicate. In general, the most suitable role for the student teachers with regard to community development is a supportive one, since there are community development workers already with full-time responsibility. The supportive aspect of work may be difficult to define. It may consist of giving advice, participating in a project, or playing a leading role alongside community development workers.

(For further information, write to Director of Rural Teacher Education, Department of Education, Kasetsart University, Bangkok, Thailand.)

CASE STUDY #5

Educators for Human Services: Expanding Roles for an Urban Setting, Wisconsin, USA

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Program Description

The Educational Studies major is an interdepartmental professional degree offering in the School of Education at the University of Wisconsin-Milwaukee, Wisconsin, U.S.A. The program, leading to a Bachelor of Science in Education degree, offers a cohesive course of study designed to prepare students who wish to pursue careers in the vast array of educational roles *other* than that of the traditional public school teacher. The program is individualized and does not offer any ready-made areas of specialization since students' programs emerge based on their particular educational needs and career aspirations.

Over 100 undergraduate students are currently pursuing programs of study through this recently implemented interdepartmental mechanism. The focus of student interest ranges from the preparation of interpreters for the deaf to avocational counseling for the elderly, and includes such established areas as recreation education and community health education. Programs of study are planned by students under the advisement of faculty representing all departments of the school.

The Program in Perspective

Unfortunately, educational achievements in the United States reflect a distortion in development. While public schooling increased in importance, other agencies and institutions which were involved in the process of deliberate education received relatively little attention. Thus, the home, the church, community agencies, mass media, and business and labor organizations were continually ignored by most scholars and professional educators dedicated to the improvement of schooling. The questions of the few individuals who struggled to expand the commitment of educators went largely unanswered.

Consequently, some of the most important educational facilities in the society have emerged without professional guidance and often without adequate funding. Research into the nature

of these various non-school centers of deliberate education has been sparse and inadequate. Teacher education has also reflected this distorted emphasis upon public schooling, and Schools of Education have often become merely schools for the certification of public school teachers. However, an emerging national movement reflects a broader view of the educational endeavor. Schooling is increasingly viewed as only one of the many means of deliberate education that is a life-long learning process.

The Milwaukee Metropolitan Area

The city of Milwaukee has grown from rather humble beginnings to become the third largest manufacturing center in the U.S. By the late 1960's there were over 2,500 manufacturing establishments situated within the bounds of the Milwaukee metropolitan area. Over 300 public and private elementary, secondary, and specialty schools dot the area and play an important role in the education of the young and old alike.

While these schools are designed primarily to achieve the teaching and learning goals established by the community, there are numerous additional agencies which educate the public. Over 500 highly organized community based institutions also provide various significant forms of educational activity. It is this significant configuration of non-school facilities which the Education Studies Program is designed to serve.

The School of Education

As part of this emerging perspective, the faculty of the School of Education, University of Wisconsin-Milwaukee, has expanded its educational offerings and commitments. A significant dimension of this educational renewal is the Educational Studies major, designed primarily to prepare educators who will function in out-of-school settings. Students enrolled in the Educational Studies Program utilize the resources of all departments, since professionally related courses are offered almost exclusively through departments.

Need for Human Service Educators

In recent years, the U.S. has witnessed many significant and far reaching social changes. Technological achievements, urban growth, and the demands for greater social equality and personal freedom have characterized the last decades. Values have also changed, and new life styles have emerged. This is especially true in the ways in which individuals view their education. While many individuals continue to see schooling as a means of preparing themselves for a particular job, an increasing number of persons are searching for lifelong career development and enriched leisure hours. The society is rapidly becoming a learning society in which the demands for educational

services are increasing at an exponential rate.

Educators Needed Outside the School System

As a result of this growing concern for personal growth and skill development, the public is seeking various educational programs not found in traditional educational institutions. The result is a proliferation of varied alternative schools, free schools, learning centers, and education programs. Educational activities relevant to vocational, social, and recreational interests have been organized by business, labor, church, community, and independent agencies as well as by individual educational entrepreneurs. Numerous government agencies are offering information and educational services to assist individuals in obtaining assistance and access to community resources, especially in urban centers. Learning and teaching are increasingly being viewed as vital functions in almost any setting in today's sprawling metropolitan areas.

A Comprehensive View of Education. Today's educators can play a crucial role in the education of the citizens of a modern urban and multicultural society. The home, community agencies, youth and adult organizations, labor, business and recreational programs are all centers for significant educational activities.

The rapid social changes engulfing modern societies require the development of a comprehensive view of education, especially by those individuals involved in the professional preparation of teachers. Professor Lawrence Cremin succintly observed in *Public Education*:

> To be concerned solely with schools, given the educational world we are living in today, is to have a kind of fortress mentality in contending with a very fluid and dynamic situation. Education must be looked at whole, across the entire life span, and in all the situations and institutions in which it occurs.

While public schools are experiencing a decline in enrollment and a decrease in the need for teachers due to the leveling off of the elementary and secondary school-age population, other agencies which provide human services are continuously in need of professionally qualified educators. This shift in the educational needs of society requires a realignment of the aims and goals of teacher education. Schools of Education should broaden their services from a narrow emphasis upon the preparation of certified public school teachers to the preparation of educators for settings other than public schools.

Examples of Human Service Roles Needed

The demand for education outside the school system has created many positions for which we are now preparing students, for example:

- *Adult and Community Education*: Director and coordinator of adult education programs using public school facilities.
- *Avocational Counseling*: Avocational counselor providing information related to leisure time activities for federal, state, and local institutions for the aged, the handicapped, etc.
- *Guidance Education*: Guidance education director assuming responsibility for the creation of educational programming for multicultural populations and community-based social recreation agencies
- *Community Health*: Community health educator disseminating information pertaining to nutrition, hygiene, prenatal care, and family planning--employed by local, state, and federal government agencies and institutions.
- *Inservice Education in Business and Industry*: Director of inservice education, employed by personnel departments, coordinating the development of training programs for entry level employees in business and industrial complexes, designing procedures for employees pursuing higher or further education of their own initiative.
- *Correctional Education*: Specialist in prison and correction education, working in local and state correctional facilities and probationary agencies, counseling public offenders about education programs, apprenticeships, and training programs available to them.
- *Bilingual and Bicultural Education*: Director of bilingual and bicultural education, designing education programming for local community or agency populations and providing information in a client's native language.
- *Environmental Education*: Director of environmental education, working closely with public and private organizations to develop a multimedia approach to environmental protection, implemented through local schools, social service agencies, and public broadcasting.
- *Educational Research*: Director of educational research, providing statistical, survey, and evaluation assistance to local community agencies.
- *Educational Programming*: Educational programming specialist working in conjunction with instructional media professionals in the development of educational programming for public radio and TV broadcasting.
- *Early Childhood Education*: Director of early childhood education, supervising educational programming of early childhood centers for preschool-age children.
- *Religious Education*: Director of religious education, assuming responsibility for design and implementation of educational activities for churches, synagogues, or branches of the various denominations.

Methods and Curricular Design

The Education Studies major does not offer any ready-made areas of specialization since students' programs are based upon their particular educational needs and career aspirations. Individual programs are developed by students in conjunction with their faculty advisors. Hence, students do not follow a rigidly pre-defined curriculum. However, students must successfully satisfy general curricular requirements.

Comprised of introductory course work in the humanities, natural sciences, social sciences, and fine arts, the 24-credit-hour core requirement serves as a foundation and an orientation for individual program development.

The Education Studies Major

As the primary facet of the total program, the 34-credit Educational Studies Major is a means of cultivating the professional skills of the community educator. It contains three components: foundations, specialized electives, and professional field experience.

Foundations. This interdisciplinary module is composed of various introductory courses offered by the School of Education. It is designed to provide students with a broad perspective of the educational process.

Specialized Electives. These provide for an area of specialization within education, individually designed to the student's interest and career aspirations. Existing and emerging areas of specialization include:

- alternative schools
- youth and adult education programs
- community health education
- therapeutic recreation education
- volunteer lay counseling
- correctional education
- educational media
- religious education
- labor and business inservice education
- international education
- parent education
- leisure education
- education for the elderly
- education for interpreters for the deaf

Professional Field Experience. Each student participates as a student-educator in a community, non-school setting supervised by an educator acquainted with the realities of the situation. This aspect of the major is especially crucial; while all students have experienced teaching and learning in a school setting, few have first-hand knowledge of the educational process as it occurs in settings where the educational function is ancillary to other goals of an institution.

Advanced Level Substantive Coursework. In addition to the lower level coursework required for satisfactory completion of the core curriculum, students enrolled in Educational

Studies must complete a *minimum* of 12 credits of advanced level substantive coursework.

General University Electives. The program allows for a number of general electives which provide the student with an opportunity to design a minor area of emphasis.

Student Program Development

Students expressing interests in pursuing an Educational Studies major are initially screened and advised by a member of the Educational Studies staff. Those eligible for admission to the program must submit a Student Preliminary Plan which outlines general goals and objectives. The Office of Educational Studies then assists the student in the identification of a faculty advisor. The advisor approves the preliminary plan before developing with the student a program of study, and assumes primary responsibility for the supervision of the student's progress,

Although the student together with a faculty advisor assumes major accountability for the content and rigor of the academic experience, each individual program must also be reviewed by the Director of Educational Studies as well as by the Director of the Office of Academic Advising in the School. These three individuals constitute the student's academic advisory committee.

Evaluation

The Curriculum Committee and Faculty Assembly provide continuous critical review and evaluation of the program's applicability and consistency with university policies and perspectives.

The Advisory Committee monitors the program through regularly scheduled meetings. Provisions for a more formal evaluation by community professionals are now being made. The formal evaluation may help identify areas of concern and make recommendations for further development.

Data outlining student enrollments and job placement success are important indicators of the program's relevance to student goals and its credibility as a curricular design. As the program matures, studies of this nature will be conducted on an ongoing basis by the Department of Placement and the Office of Institutional Studies.

Future Plans

Continued development of the Educational Studies major rests upon the faculty's ability to remain aware of the emerging social realities of urban life. The faculty of the school and the Educational Studies advisors in particular, must take significant strides toward increased community involvement and the establishment of meaningful channels of communication

with professional educators in both the university and the community.

Planning an Urban Educational Symposium

An initial step in this direction is an Urban Education Symposium now being planned. An assembly of formal and informal presentations, panel discussions, workshops, and group sessions, the Symposium will serve to further define and develop the roles and functions of the professional educator serving in non-school settings. The Symposium is specifically designed to further expose students, faculty, and interested community persons to the vast array of educational programs and professional career opportunities beyond the walls of the traditional public school system.

Emphasizing an Interdisciplinary Approach

Another significant project associated with the program and its development is an increased emphasis upon its interdisciplinary nature. The relational aspects of the program are to be extended. Although the Educational Studies major is designed to encourage students to utilize general university electives as supportive course work, a more formal requirement may emerge.

Cooperative efforts and dual majors could be developed with academic departments such as Afro-American studies, psychology, and political science or with other professional schools such as the School of Business Administration, the School of Allied Health Professions, or the School of Social Welfare.

Continued Program Expansion

Efforts are underway to insure the continuing qualitative growth of the professional education degree option. Program admission and graduate requirements are being critically reviewed. This continuous assessment is viewed as an essential characteristic of a program designed to remain attuned to social realities and student needs.

Conclusions: What Has Been Learned

The following conclusions relate to what has been learned in implementing the program:

- The need for non-school educators is plainly evident to those who have raised their sights and examined the large number of organizations and institutions in society needing many kinds of educational services.
- To be successful, this type of program needs strong departmental and administrative support and participation. Interdepartmental programs in institutions where salary and promotion are determined by departments can easily falter without

strong administrative support.

- The implementation of such programs must reflect the political and institutional realities which exist where they are established. It is advisable to develop such programs with a degree of flexibility to allow policies and procedures to emerge as the program develops. It is essential that the administration of such programs includes the active participation of a governing and/or advisory body to develop policies and procedures as the program emerges and as issues arise.
- The expansion of the mission of professional Schools of Education into the area of non-school education offers teacher education an opportunity to re-analyze and re-formulate its objectives. The development of the Educational Studies Major revealed that such an endeavor provides the School of Education with a unique opportunity for creative and rigorous self-renewal since historically teacher education has focused upon the preparation and certification of teachers for public schools. This narrow view of the functions of Schools of Education has become part of the conceptual and professional frame of reference for program development. Indeed, most research in Schools of Education deals almost exclusively with the classroom setting.

The development and implementation of Educational Studies represents an attempt to harness and rechannel the energies of a professional school which has historically been concerned almost exclusively with the preparation of school personnel. It is a stride toward a comprehensive approach to the preparation of the professional educator. By expanding the mission of Schools of Education, the profession is able to extend its traditional commitment to all segments of society.

(For further information, write to the Director of the Educational Studies Program, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin 53201, U.S.A.)

CASE STUDY #6

The Preparation of Teachers for Adult Education in Tanzania

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In Tanzania, education is *Education for Self-Reliance*, and self-reliance means development of the people by the people themselves through education and work. Education embraces learning by the whole population--the children, the young people, the adult farmers, and workers. Adult education, which used to be the nonformal part of the educational system, has now been formalized and is integrated with community life, encourages the growth of socialist values, stresses the solution of problems and prepares for the realities of rural life.

New Educational Objectives

At Independence in December 1961, the main problems of national development were how to wage war against ignorance, poverty, disease, and exploitation as well as all forms of oppression. In 1967, the policy of *Ujamaa* (Socialism) and *Self-Reliance* was adopted as the only appropriate approach to political, social, economic, cultural and educational development of the people, by the people themselves, through functional education.

The objective of socialist development in Tanzania as outlined in the Arusha Declaration is *to build a society in which all can live in peace . . . without suffering or imposing justice, being exploited or exploiting, in which all have a gradually increasing basic level of material welfare before any individual lives in luxury.*

Soon after the proclamation of Ujamaa and Self-Reliance in 1967, President Nyerere stated in his *Education for Self-Reliance* that:

> "The education provided by Tanzania for the students of Tanzania must serve the purposes of Tanzania. It must encourage the socialist values we aspire to. It should foster the social goals of living together, inculcate a sense of commitment to the Community, stress concepts of quality and responsibility, develop independent, self-reliant citizenry committed to truth and socialist values, counteract intellectual arrogance and provide a complete education consistent with realities of rural life."

Although education for self-reliance was meant for the whole population, the formal education catered to only a fraction of the population. Because of lack of human and material resources, only 50% of school-age children could enroll in the first grade each year. Of those, only about 8% could secure a place in secondary school, and only a very small fraction of this 8% could secure higher education. Thus, the majority of adults and half the number of their school-age children, who form the future of Tanzania, were left out. Yet these are the people who had to contribute to national development.

This situation led President Nyerere to declare, during the inauguration of the First Five-Year Development Plan (1964-1969), *"First we must educate adults; our children are not going to have an impact on our economic development for five, ten, or even twenty years. The attitudes of the adults, on the other hand, have an impact now."*

Need for the Program

In 1972, the Ministry of National Education outlined a program for adults: (1) functional literacy and numeracy for all, (2) work-oriented adult education, (3) workers' education, and (4) education and work in schools. Implementation of all these functions has already begun. The year 1970 was declared Adult Education Year, and the literacy campaign was made nationwide.

The target for 1975 was to make literate all the 5.5 million illiterate people in Tanzania, and provide them with functional education. The evaluation done in 1975 showed that over four million people had enrolled.

November 1977 has been declared the Universal Primary School year, when every child of school age must go to school. Already 70% have been enrolled. Workers' education has been given one hour a day at all places of work. Folk-development colleges have been established in all regions to cater to education for farmers and post-literate population.

Adult Education Personnel

Sources of adult education personnel are varied. The primary school teachers provide the largest corps of teachers, followed by teachers from the secondary schools and colleges. There are also officials; extension agents in agriculture, rural development, health, and cooperatives; religious leaders; and volunteer teachers (primary school dropouts). Specialists from different ministries, institutions, and organizations, such as the Ministry of Health and Agriculture, teach the subjects falling within their areas of specialization. Primary school teachers teach functional literacy and numeracy. In

principle, every civil servant can be called upon to teach that subject in which he has expertise.

Training Seminars and Courses

The following topics are dealt with at training seminars and courses: (1) psychology of adult learning, (2) methods of teaching adults, (3) literacy methods, and (4) planning and organization of adult education.

Training courses in the Colleges of National Education, Institute of Adult Education, emphasize the close integration of professional theory with the realities of Tanzanian situations. The following are among the subjects taught: (1) history and philosophy of adult education; (2) adult teaching and learning processes; (3) social and economic aspects of development in rural development and adult education; (4) political education; (5) planning, administration, and evaluation of adult education programs; and (6) policy, organization, and resources in adult education.

Methods of Instruction

As to methodology, great emphasis is put on group work and practical field experience, adult education survey work in villages, teaching practice, and evaluation of adult education projects. Cooperation and coordination of adult education in various ministries is of paramount importance.

Other forms and methods of training include mass campaigns, publications, research and planning, correspondence education, evening classes and regional centers, Tanganyika Library service, Radio Tanzania, and local and national newspapers.

Program Management

At the beginning of the project, *inservice teachers* were selected and trained and then posted as *district education officers* for adult education.

The next set of field officers were selected from the ranks of the district education officers and posted as *regional adult education coordinators*.

Then *divisional supervisors*, who are directly under district education officers, were selected. They supervise and administer adult education at the division level.

The next group of teachers included *ward coordinators*, who are responsible for adult education at the village level. Most of these ward coordinators were formerly primary school headteachers.

The *headteachers* of primary schools, *headmasters* of secondary schools, and *principals* of colleges of national education form another group of supervisors and coordinators who not

only deal with adult education in their schools and the surrounding area, but also make their schools centers of adult education. Their students are active participants.

Then there are the *managers and heads* of ministries, institutions, organizations, and places of work. Their job is to ensure the adequate and appropriate provision of adult education to the nation.

Program Coordination

Coordination of adult education in Tanzania is made more effective through a system of committees and the extensive use of local leadership. Committees operating from classroom level to the regional level enable learners to plan their own classes, select their own teachers, and decide on what to learn and how to learn.

The key people in the expansion implementation of the adult education program are teachers, especially the primary school teachers who are found everywhere throughout the country. Adult education uses the same facilities and teachers used by primary schools. The move towards integrated schools within their immediate communities has also proved its worth. All teachers are teachers of national education and are prepared to teach children as well as adults. Adult education is a national priority and is the concern of everyone. The Ministry of National Education is the overall organizer, supervisor, and coordinator of teachers to fulfill its obligation to the nation.

Evaluation Procedures

Evaluation is considered an integral part of the adult education program. The inspection and evaluation unit for adult education is an important section of the Directorate of Adult Education and the Institute of Adult Education.

Formative and summative evaluation is carried out for each category of the program in four general procedures:

1. Each district and region submits monthly reports, three-month statistical reports, special reports on specific programs, and annual statistical reports.
2. Inspection and evaluation is carried out in the districts and regions by the inspection and evaluation unit from the Ministry of National Education and the UNESCO/UNDP Project in Mwanza.
3. Feedback from government and party leaders help the inspection and evaluation unit to be more effective in the field.
4. National adult education reports are prepared quarterly, semi-annually, and annually.

Conclusions: What Has Been Learned

The success of the adult education program in Tanzania can be attributed to various factors. *One,* adult education was elevated to a priority goal by political and government leaders, workers, and educators. *Two,* the clarification of national goals and the elaboration of the role of adult education in the achievement of those goals have resulted in widespread acceptance and cooperation. *Three,* the functional approach has made adult education pertinent to nearly every sector of the nation. *Four,* the program is based upon the assumption that adults learn because they want to learn; they tend to learn interesting things or things which improve their lives. Therefore, adult education necessarily begins from the needs of adults. *Five,* adults must determine their own needs and then select what to learn and how to learn it. *Six,* the integration of adult education programs into real working situations in life has proved useful. *Seven,* depicting education as a means for improvement in doing one's job has proved to be a great motivating factor in adult education in Tanzania.

The adult education program in Tanzania has validated President Julius K. Nyerere's recommendation that people can develop themselves if they understand their own needs, if they understand how these needs are met, and if they have the freedom to make their own decisions and carry them out.

(For more information, write to the Director of Teacher Education, Ministry of National Education, P.O. Box 9121, Dar es Salaam, Tanzania.)

CASE STUDY #7

Expanding Roles of Agricultural Educators in Mississippi, USA

JOHN WILLIAM OREN, JR.
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The program consists of an effort to expand the professional role of agricultural educators through collaborative arrangements with numerous agricultural agencies, institutions, agribusinesses, and educational organizations. The Departments of Agricultural and Extension Education at Mississippi State University have been continually searching for ways to be more responsive to the educational and developmental needs of the people of Mississippi. This challenge set the stage for the merging of the Department of Agricultural Education and the Department of Extension Education. The new department is now three years old.

Out of this newly developed department evolved a collaboration between agricultural teacher education and a professional supervised field experience program. Students may earn up to six semester hours of credit through involvement in the supervised field experience program. This unique educational approach has revolutionized both the educational and employment opportunities for more than 300 students. Partners in this effort in preparing professional educators are: Colleges of Agriculture and Education, Mississippi State Department of Education, Mississippi Cooperative Extension Service, Mississippi Agricultural and Foresty Experiment Station, Farmers Home Administration, Soil Conservation Service, Mississippi Forestry Commission, Agricultural Stabilization and Conservation Service, and many agribusinesses throughout the state.

Extending Educational Options

This collaboration has provided our department opportunities to respond more relevantly to the tremendously complex changes that are taking place in modern day agriculture, agribusiness, and our rural communities. This collaboration has also brought about more relevant educational experiences for both undergraduate and graduate students in Agricultural and Extension Education.

Our collaborative approach to teacher training is now extending the educational options of our students far beyond those available to them three years ago. Through the supervised field experience program, our students are exposed to many new out-of-school educational experiences in the following areas: agricultural development, adult education, community development, economic development, and environmental improvement. Our students are now more competent to assume leadership roles in agriculture and community development on a part-time basis, or to serve as full-time professionals in other non-school positions involving human services.

Meeting Community Needs

From a social, economic, and political context, the timing for implementation of this project was very appropriate. Mississippi has been considered by many as being severely deprived, both socially and economically. However, during the past decade Mississippi's educational, agricultural, community, and political leaders have stimulated new growth and development in the state.

This project is therefore in keeping with the social, economic, and political revolution that has been taking place in Mississippi. It is in direct response to new educational needs that have become apparent. Mississippi's educational system is improving, her communities are moving forward at a rapid pace, and her economy has shown tremendous growth with a potential for an even brighter future.

Changing the Curriculum

Although new social, economic, and political realities were creating the need for new types of jobs relating to agriculture and rural life, this opportunity for filling human services jobs, coupled with the fact that only about half of our graduates were accepting employment as classroom teachers, indicated to us that we needed to make drastic changes in our teacher education program.

We conducted a very extensive study of the existing program of teacher education and implemented changes by involving a large number of interested persons, both within the university and in various state and other agencies. As a result of nearly one year of study and discussion, the new program of agricultural and extension education was fully implemented.

Expanding Educational Opportunities

Our students are discovering in the field experience program many opportunities in clusters of educational specialities. These clusters of specialities in human services prepare them for important educational roles other than classroom teaching. Some examples of these are listed below:

- *Agricultural and Economic Development:* technical representatives for agribusiness, farm management consultants, rural development specialists, community planners, agribusiness managers, rural safety specialists, farm editors, farmers cooperative managers.
- *Environmental Improvement:* soil conservationists, outdoor recreation program leaders, community beautification directors.
- *Human Development:* 4-H Club youth agents, educational researchers, extension home economists, rural sociologists, welfare counselors, professional youth leaders, adult education specialists.
- *Community Development:* country planning commissioners, municipal recreation directors, county health inspectors, district supervisors of vocational education, local community mayors.

Investigating Employment Opportunities

A factor that greatly influenced our strategy for expanding our supervised field experience was the employment of our students by the Farmers Home Administration which wants their student trainees to gain a great deal of experience assisting low income farmers and rural residents with production loans, community development loans, rural housing loans, rural water association loans, and the conventional farm financing packages.

Another factor that influenced our strategy was the number of our graduates going into management training programs and working with agribusiness organizations. Many of these jobs require the college graduate to be capable of developing effective sales and service programs dealing with agricultural supplies, products, and services. These individuals are more involved in educational roles than we had realized.

Our graduates were also securing employment with numerous governmental agencies assisting individuals and communities with environmental protection programs, water utilization plans, and land management programs, as well as numerous community development and agricultural development activities.

Focusing on New Human Services

Many of the usual cleavages that exist between agricultural education and the various organizations outside the university diminished as a result of our efforts to secure more involvement from these representative groups. We found that these groups have always been interested in programs of agricultural education and wanted to work with teacher education departments. Unfortunately, many teacher educators have ignored the many new job requirements in rapidly changing rural areas.

We wanted to better assist our students develop as professional leaders in rural Mississippi. In order to provide the relevant skills necessary to assist organizations, people, and communities in their growth and development, we broadened our program of agricultural education. Traditionally geared for classroom teacher preparation, it now encompassess the broad area of human services.

Teachers and Instruction

Specific instructors from outside the university were contracted to teach specialized courses, bringing the most up-to-date and expert instruction to both our undergraduate and graduate students.

From a management standpoint, this was an efficient way to buy the necessary talent to get a special job accomplished. For example, a course in advanced communications is taught by two leading agricultural communicators in the state, who are given specific university contracts to teach this course. Approximately seven courses within our departmental course offerings are taught by special contractual arrangements with the best people to be found in the state of Mississippi.

Problems of Coordination

Developing collaborative arrangements among such a diverse group of organizations and agencies presents numerous problems. The planning, organizing, directing, and controlling of the department has been complicated by these arrangements. However, the assistance gained in the management and implementation of our educational program clearly outweighs the complications. Obviously, attempts to involve more people in the planning, organizing, and implementing of innovative programs add problems.

The primary issue was this: *Can we develop a program that will have adequate flexibility to meet the needs of these various organizations, agencies, and businesses and still maintain the academic integrity we desire?*

In retrospect, the biggest problem we had was dealing with organization and agency jealousies and biases. After we were able to remove these two stumbling blocks from our paths, we progressed rapidly.

Evaluating the Program

The best measure of the success of the program is the fact that graduates do find employment in the areas of human services. Since the start of the program our undergraduate enrollment has increased from 60 to over 100 while our graduate program has jumped from 60 to 230.

We use an administrative professional review form, an annual faculty review form and student evaluations of professors and courses.

Conclusions: What Has Been Learned

The most important lessons we learned from our endeavors can be summarized as follows:

- A university survey of educational needs in a community, with the assistance of persons in state, local and private organizations, will uncover an *unsuspected* wide range of educational needs. These can be addressed by preparing students for positions in the area of human services.
- By contracting for part-time teaching services of outside experts, a university can extend its course offerings to cover specialized subject matter needed for the preparation of human service educators.
- With careful planning and the collaboration of persons and agencies involved, it is possible to provide useful and practical field experiences for college students and at the same time maintain academic integrity.
- Continuous evaluation of student performance is essential for keeping a program relevant to changing needs for human services.

(For more information write to: Department Head of Agricultural/Extension Education, Mississippi State University, Mississippi State, Mississippi 39762, USA).

Section Three:

DEVELOPING NEW DELIVERY SYSTEMS

Section Three on new delivery systems is introduced by GRADY's paper on the general state of the art of educational technology and its use in four specific areas. Next, OKUNROTIFA and AGUN present Nigeria's experience in developing and utilizing education technology in a West African context. Kenya's in-service teacher training program using radio and correspondence courses is next presented by KINYANJUI. SORIANO describes the unique Philippine experiment in developing a new role of teacher as manager of an instructional system capable of handling large number of students.

Concluding this section are RAY's case from Guatemala and the MASONERS' from Colombia, each dealing with non-formal education in rural areas. The focus is on the many types of instructional functions being performed by a variety of people in behalf of the program. The two accounts may suggest to the reader that higher education, attuned to national development needs, might assist the creation and implementation of such programs through preparing the teachers of teachers, the trainers of farmers, as well as the managers who administer the operations.

Teacher Education and Technology to Accelerate Development

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Educational Technology: Four Areas of Usage

For this presentation, educational technology is defined as television, radio, film, programmed instruction, computers, filmstrips, and slides, etc., used in educational programs.

While there is no doubt that technology can be beneficial to educational and developmental efforts, a word of caution is in order. Educational technology is not a panacea. It is not easy to conceptualize its uses or to develop, install, and maintain its hardware. Meaningful integration of educational technology into the local situation or setting is no small task. Expectations have been built on promises and prophecies that educational technology could and would raise the standards and quality of education faster, cheaper, better, and more effectively than any other system of education. Exaggerated claims have led to unrealistically high expectations of educational technology's role and effectiveness.

First it is important to look at some things that have been learned in the past and are currently being learned from ongoing activities. Based on some 500 reasearch studies designed to determine the effectiveness of educational technology from around the world, we can make the following statements:

- Any technology can, within its physical limitations, perform any educational task.
- Student learning and achievement outcomes may depend as much on how a medium is used as on which medium is used.
- There is not sufficient evidence to indicate that any one medium is inherently more effective and desirable than any other medium in all teaching and learning situations.

The selection, then, of the most desirable educational technology system is a complex matter and requires careful study and deliberation. Cost-benefit factors, educational objectives, individual differences, national priorities,

available manpower and expertise, and geographic features must all be considered if an educational technology system is to be successful. In spite of the inevitable problems and failures, some guidelines appear to be emerging concerning successful educational technology programs. These can be grouped in the following four areas: (1) teacher training and professional preparation, (2) national education reform, (3) formal education, and (4) non-formal education.

Educational Technology in Professional Preparation

The professional preparation and training of teachers has long been a concern of educators. With the advent of technology in education, it is natural that educational technology's use and effect on teacher preparation would be studied. From these studies have come suggestions for better and more effective uses of educational technology in teacher training. One such suggestion is the microteaching techniques which use a television camera, videotape recorder, videotape player, and a television monitor. Recordings are made of teachers in real or simulated teaching situations and are played back for analysis and review with the assistance of an experienced teacher. While the technology may perform well, our ability to use this technique to its fullest advantage is only now maturing.

However, a very promising series of projects and studies on the uses of microteaching in teacher training is being conducted by Dr. Michael Orme of the Department of Applied Psychology at the Ontario Institute for Studies in Education in Canada. By using microteaching technology in a total instructional system, these projects focus on the systematic analysis of successful teaching techniques and behaviors. This analysis is then incorporated into a step-by-step process of practicing, recording, observing, and discussing various teacher performances in such instructional techniques as monitoring student behavior, maximizing student participation, analyzing student error, and probing into student responses.

A major finding of the study shows that when teachers are trained systematically through microteaching techniques to use a specific skill or technique in their teaching behavior, this new behavior is transferred to the classroom.

As this and other projects continue, principles for more effective use of educational technology in teacher training may be developed.

Educational Technology for National Educational Reform

Educational reform on a national level refers to a massive, country-wide effort to bring about educational change quickly. Wilbur Schramm, in his "Big Media--Little Media," provides probably the best data on such efforts with his studies of El Salvador, Ivory Coast, American Samoa, and Niger. As a composite, educational reform in these four countries covered all grades plus pre-school, adult education, and inservice teacher training. Television for core teaching was common to all four country-wide efforts. In addition to television, other elements were common across the four projects. For example, each had--as its major educational objective--expanded enrollments and universal education, plus modernization of educational content and methodology. All had substantial outside financial assistance. Internal support took the form of instructional television teams which included production specialists, teachers, and supervisors, as well as classroom materials, feedback from students on program effectiveness, curricular revision, and inservice training for classroom teachers.

Although similar in purpose and choice of technology, the manner in which each country approached and implemented its project differed in many ways. There were differences in techniques and extent of project preplanning and preparation, in pacing of project phases, in teacher qualifications, in political and cultural structuring, in number, frequency, and distribution of programs, in curriculum content of programs, in class size, and in total number of students served. Differences also existed in the follow-up procedures and the effectiveness of each project.

Based on the successes and failures, as well as the commonalities and differences of the four projects, certain guidelines about the effective use of television as an instrument of national educational reform began to emerge.

Support by Administrative Leaders

Strong support from the top administrative leaders of each country was necessary for each project's existence. Each project received strong resistance from some faction of the educational establishment in each country. Resistance came from the Ministry of Education, from teachers groups, or from both. It seems that changes of such sweeping magnitude are perceived as a threat by various vested interest groups. Consequently, it seems extremely necessary under these circumstances to have strong support from the top administrative leaders of the country if a project is to flourish or even survive beyond the experimental stage.

Involvement of Local People

If a nation-wide educational reform project is to succeed, it should be integrated from the very beginning in the local culture as well as in the national power structure. Outside help and consultation can be of assistance by having a slightly different vantage point, alternative ideas, etc. However, if the reform system does not employ a large percentage of nationals as teachers, supervisors, project directors, and production specialists, it will be looked upon by local leaders as an experiment conducted by outsiders, and it is unlikely to be of true or lasting value to the country.

Revision of the Educational System for TV

It appears that something more than just the subject matter content of the televised lessons was at work in the national reform projects. Use of television as an educational medium necessitated an appropriate internal educational support system. The success of televised lessons involved many necessary components of this "support system," such as: (1) retraining teachers for both the classroom and television, (2) rigorously structuring curriculum content to make more effective use of TV time, (3) preparing additional study materials for students and pictoral representations for classroom discussion, and (4) preparing lesson guides for teachers. It may be that the more comprehensive educational system which comes into existence when educational television is emphasized will produce more effective reform than any effect televised curriculum alone may have on education.

Concentration on Specific Areas

Efficient television usage became more and more specific as familiarity with the medium increased. Each of the four projects used TV for general core teaching in the beginning. As experiences with TV grew and matured, television proved to do some things better than others. As these areas were defined, televised lessons began to concentrate in more specific areas.

Adequate Financial Support

Substantial financial support from outside sources was necessary for each of these projects. Because of the tremendous expenses involved, one country planned not to expand the project beyond its initial stage of experimental development. The financial difficulties inherent to a system calling for an extensive television component required serious consideration of two questions: Could a national educational reform be accomplished by utilizing educational technology? Could this rely totally on internal national resources for its support?

Educational Technology in Formal Education

Remembering our earlier definition of educational technology, we will now look at educational technology in formal education. Schramm found that more than 30 countries have utilized educational technology to some extent in their efforts to provide a formal education for those citizens who desire it, regardless of where they live. These educational programs are generally designed to provide academic credits and, subsequently, a degree.

In an effort to provide better educational opportunities within and beyond the classroom, several patterns to utilize educational technology have been developed. Because it is not always possible to provide educational opportunities to everyone via the school building/classroom teacher approach, considerable attention has been given to alternative systems. The correspondence course was established to extend the school to anyone who desired an education.

From that early time to the present, a variety of alternatives have been tried to deliver education to those who wanted it. In some countries, education was offered totally by correspondence; in others, almost totally by radio; and still others, by television. Some countries have capitalized on a combination of printed materials, radio, television, study centers, and consultation hours. Each method has its own inherent problems and advantages. Some problems are common to any effort to utilize technology in formal education efforts.

One of the common problems is the acceptance of educational technology by the established teacher corps in a school. Current efforts to overcome this resistance include rewarding teachers involved with educational technology by giving merit considerations and recognitions. On the college and university level, at least one institution in the U.S. has equated educational media productions with the authorship of books and articles in relation to promotion considerations.

Other problems relating particularly to the extended educational opportunities include lack of liveness of the study program, lack of activities, insufficient communication between teacher and student, high dropout rate, difficulty of scheduling lessons, and maintenance of overall effectiveness of instruction. The University of Delhi, which historically has had a very strong correspondence study school, has added radio, television, and optional class meetings to its correspondence efforts. It appears that the broadcast medium helps the student to keep on schedule and to overcome the lack-of-liveness problem.

The Korean Educational Development Institute has an air and correspondence high school which, in addition to radio lessons

and correspondence study, has added a component calling for an on-site consultation and tutoring session. Students enrolled in the programs of the Air and Correspondence High School come to a convenient high school building two Sundays a month for tutoring and consultation with an instructor. This helps to meet the need for two-way communication between teacher and student and has helped to reduce the percentage of dropouts.

The Open University of Great Britain has brought together perhaps the most complete array of resources for extended study. There is a minimum of one television and one radio program per week per course, student study materials, programmed instruction, tutor sessions, learning resources centers for reviewing materials and the opportunity for summer residence study on campus. Successful completion of the courses of study results in the award of a degree. Instruction extended by educational technology can be favorably compared to that of traditional classroom instruction. Two examples follow:

- For over 40 years, the Australian radio-correspondence schools have been graduating students who subsequently went on to succeed in colleges and universities equally as well as students taught in traditional classroom settings. Provision for a formal education along traditional lines for the total population of Australia would be impossible due to geographic isolation and other reasons.
- The Mexican Radioprimaria presents data resulting from an experimental research study designed to test whether radio could be used successfully to expand three-year primary schools to six grades without adding additional teachers. The grades taught by radio were compared with the same grades taught by regular classroom teachers. The radio group gained as much as the group taught in the traditional manner.

Educational Technology in Nonformal Education

Nonformal education tries to fill the void left by most formal educational systems. It tries to provide an individual with learning opportunities that were previously unavailable to him, missed along the way, or just not easily obtainable through existing formal school settings. It fills a need in a particular location. It may cover anything from functional literacy to refresher training; from self-help projects to national development programs; from forestry to family planning.

Of the various media, radio has emerged as one of the major contributors to nonformal educational systems. It is a relatively inexpensive way to share expertise and information over vast distances with local populations.

It was found, however, that radio alone utilized by a single individual listener was not very successful. When radio was used in combination with other appropriate media and when groups of listeners were formed, its effectiveness increased. Further, if follow-up group discussion and decision-making with public commitment occurred with radio listening, effectiveness increased even further. If a reference person or field worker were available for additional reinforcement and interpersonal contact, the effectiveness increased again.

Consequently, radio groups have been formed for various purposes. Radio "study groups" have formed to obtain and study new information such as health care or agriculture methods. Father Salcedo's Radio Sutatenza in Colombia is an excellent and extensive example of this. "Discussion groups," such as the radio clubs of Niger, formed to heighten awareness of common local concerns. "Deciding groups" were formed in Canada, India, and Ghana to effect rural reform via community decisions which resulted from group listenings, discussions, decisions, and public commitment to improvements. The group methods of utilization seem to be one of the keys to successful use of educational technology in a nonformal educational setting.

Conclusions

It must be re-emphasized that educational technology is not a magic panacea. It is an impressive tool and can be used to great advantage to implement development and the improvement of an educational system. Caution must be exercised, however, for a tool is worthless if inappropriately applied to the task. Effective use of educational technology requires careful and deliberate scrutiny of the media, the particular purpose, and the situation to which it is to be applied.

CASE STUDY #8

Educational Technology in Nigeria

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Status of Educational Technology

In Nigeria, the aspect of educational technology which is most popular is the media. There is hardly any of the well-known media of education that is not being used in one form or the other for instructional purposes. Thus, television, radio, films, filmstrips, slide series, overhead transparencies, flat pictures, and different kinds of graphic materials feature in the country's education.

Nevertheless, it is safe to say that the use of media has not become a very significant aspect of the educational system of the country. Still needed is a comprehensive plan to systematically use the media to solve some of the clearly identifiable educational problems of the country. The use of media has not become a regular and an integral part of the other instructional approaches in the classroom.

Government Interest and Intervention.

The Establishment of Centers. Federal and state governments have shown interest in the use of the media to improve the quality of education in the country. The interest of the federal government is manifest in the establishment of centers which are meant to provide leadership in the use of media. This is the role of the audiovisual section of Ministries of Education and the funds provided for some agencies concerned with the use of media in schools.

The Science Equipment Center at Lagos and the Federal Schools Broadcasts and Visual Aids Development Center at Kaduna are established to promote and encourage the use of media. The Science Equipment Center is aided by UNESCO and UNDP to provide repair and maintenance services of science equipment in schools and promote the production of high quality inexpensive science teaching materials. The center exists to facilitate the distribution of science equipment and materials to schools throughout the country.

In order to improve its services, four sub-centers have been established at Ibadan, Kaduna, Jos, and Ikot-Ekpene. At present, however, the bulk of the work of the center is repair and maintenance services. It has not been able to undertake

any substantial production of materials. Hopefully, production activities will start soon with the new initiative by the federal government. The Federal Executive Council has now directed the Project Development Agency to become fully involved in the local production of science materials.

Objectives of the Centers. While the Science Equipment Center is mainly concerned with science equipment and materials, the Federal Schools Broadcasts and Visual Aids Development Center is concerned with the promotion and encouragement of all forms of teaching aids for all subjects. The center is responsible for the production and broadcast of educational programs to primary schools, secondary schools, teacher training colleges, and to any other audience which may benefit from the programs. Both television and radio are used. The center is also expected to undertake a large-scale production of educational materials like films, filmstrips, slides, overhead transparencies, and different kinds of graphic materials for schools. In addition, it will organize workshops and in-service training courses and train media personnel.

Problems of the Centers. Regrettably, the center has not been able to achieve these expectations. Very few radio and television programs are produced and broadcast each year. Production of other materials has been limited to dubbing of audio tapes. Its loan services of films, filmstrips, slides and transparencies have not had much impact because its stock of these materials is very small. It has not started to train media specialists. Workshops and inservice training courses are neither organized nor run regularly. The most noticeable achievement of the center is the distribution of 2,090 radios and 117 television sets to schools in all 19 states of the country.

There are many reasons for this poor situation. The center lacks adequate funds, planning and production personnel, and production facilities. One other important problem of the center is the fact that it is still a section of the Federal Ministry of Education, where staff and their conditions of service are often guided by the restrictive, slow, and bureaucratic civil service rules and regulations.

Nigerian Broadcasting Corporation Unit.

The Nigerian Broadcasting Corporation has been playing an important role in education in the country. In 1960, a Schools Unit of the Corporation was established to plan, produce and broadcast instructional programs to schools. The Unit broadcasts two types of programs to primary schools, secondary schools, and teacher training colleges to complement classroom teaching and enrichment programs.

The Unit broadcasts programs on English language, English literature, French, geography, history, and teaching methods.

Many schools and colleges are availing themselves of its tape-dubbing services. The dubbing services are especially important for schools where reception is poor due to long distance from the broadcasting stations.

The School Unit is also involved in a correspondence program of the University of Lagos which offers degree courses in science education. The radio supports the correspondence instructions. The extent of its contributions to the ultimate success of the program will have to be determined later.

The impact of the Unit on Nigerian schools is difficult to assess, as it has no accurate, up-to-date information about the size of its audience. It also has very few liaison officers in the field to provide feedback about how students and pupils receive the programs broadcast to them. No comprehensive research studies have been conducted to determine the effectiveness of the programs produced and broadcast. Earlier studies have obtained schools' reactions to broadcasts by means of questionnaires.

Closed Circuit Television

The universities and advanced teacher training colleges have begun to show interest in applying educational technology to some of their educational problems. These institutions, such as the Universities of Ibadan, Ife, and Lagos, and the College of Education at Owerri, have closed circuit television. At the University of Ife, for example, television was established primarily to handle overspill of lectures in general studies courses. These courses are compulsory for every undergraduate student and, therefore, enrollments are very large. Microteaching and nursing education are two other important areas for which television is used in this university. The other institutions also use television a great deal for microteaching. The College of Education at Owerri, for example, has been running microteaching programs for some time, and people are invited from universities, colleges of education, teacher training colleges and ministries of education to participate.

Departments of Educational Technology. Recent developments in universities include the creation of new departments of educational technology. The University of Ife has a Department of Educational Technology which is expected to run full academic and service programs designed to promote and encourage effective application of educational technology in education, especially in Nigeria. Similar departments have been established at the University of Lagos and the Ahmadu Bello University. In many of the universities where there are no separate departments or centers, courses such as *Introduction to Educational and Instructional Technology, Education Media and Presentation Variables* and *Programmed*

Learning are being offered. The Department of Teacher Education of the University of Ibadan offers such courses.

These new developments are of great importance to educational technology in Nigeria: they will eventually produce the much-needed manpower in the field. By training media specialists, they should provide leadership in curriculum development and the use of media in schools and teacher training colleges. The Department of Educational Technology at the University of Ife, for example, plans to offer undergraduate and postgraduate degree programs in the near future. In addition, the departments of educational technology should be able to hold inservice training courses and workshops for classroom teachers to acquire skills in the use of media. Departments should conduct research studies in media utilization, particularly in Nigeria, and provide consulting services for governments, institutions, and schools.

Use of Media in Higher Institutions. Unfortunately, use of educational media in these institutions is still very low indeed. A vast majority of the lecturers teach without using any kind of teaching aid in any form. A very small number do use some once in a while, but it would seem that the majority of lecturers--even in faculties of education--do not yet appreciate the importance of educational technology in curriculum development.

Foreign Aid and Educational Technology

External aid has played important roles in the application of educational technology in Nigeria. UNESCO, foundations, and some foreign governments have made substantial contributions to encourage and support the use of educational technology in the country. The aid has emphasized the use of instructional media and has come in forms of grants, technical and professional advice, equipment, materials, personnel, and sponsorship of specific projects designed to promote the use of educational media in curriculum development in Nigeria.

Current Efforts of the Nigerian Federal Government

The federal government has recently demonstrated considerable interest in increased and better use of educational technology to improve the quality of education in the country. In its recent *National Policy on Education*, the government has indicated its strong desire to make radio and television a significant aspect of national approaches to education. To this effect, these media will be used in the following ways: (1) to provide educational programs to schools, (2) to enhance the effectiveness and efficiency of a correspondence system which will be organized and run by the National Teachers

Center at Kaduna. (3) to improve inservice training courses and workshops for teachers, and (4) to constantly update and upgrade the academic and professional skills of teachers.

Apart from the use of radio and television for the purposes mentioned above, the federal government has also indicated its interest in encouraging the establishment of teachers' resource centers, where a wide variety and range of educational materials will be provided. Also of significant importance is the proposal to establish curriculum development centers throughout the country. The activities in these centers will be coordinated by the Nigerian Educational Research Council.

The National Educational Technology Center

Realizing the need for effective leadership and proper coordination in the application of educational technology, the federal government has redesignated the center at Kaduna as the National Educational Technology Center. Hopefully, the provision of more funds will enable the center to perform the functions and achieve the objectives for which it was originally established. These objectives include (1) keeping up-to-date information about new developments in educational media, (2) training media personnel, (3) producing and broadcasting educational programs, (4) organizing seminars, workshops and inservice training courses to instruct teachers on the production and use of simple, low-cost aids, and (5) mass-producing educational materials for schools.

However, a mere change of name is not enough, even if more money is provided. The new center must be given an enhanced status: it must be autonomous and be directed by able and experienced people in education. These conditions will make it possible to attract the right type of people needed for the center to do its work well. When fully functioning, the center will have eight sub-production centers throughout the country.

Current Efforts of Nigerian State Governments

Just as the federal government has shown increased interest in the use of educational technology, so have the state governments increased their activities in the same area. Audiovisual sections have long become integral parts of the ministries of education in this country. These sections are usually charged with the responsibility of promoting and encouraging the use of instructional media in schools. They have started to establish centers variously designated as educational resource centers, teachers' centers, teachers' resource centers, and instructional materials development centers.

The objectives of these centers are (1) to provide effective leadership at the state level in the use of instructional

media in schools, (2) to organize and run inservice training courses and workshops, (3) to produce and distribute media materials, (4) to test new materials in order to determine their instructional viability and suitability, and (5) to provide facilities and advice on curriculum development, especially at the primary school level. Some states have also been distributing radio and television sets to schools and have been cooperating with the Schools Unit of the Nigerian Broadcasting Corporation in the Corporation's efforts to broadcast educational programs to schools and colleges.

Development of Programmed Instruction

Workshops for Preparing Materials

Foreign aid in the field of educational technology in Nigeria is not restricted to grants, technical and professional advice, and equipment and materials. For instance, between July 1963 and September 1964, UNESCO organized three workshops on programmed learning. The Ibadan workshop, the first of its type in Africa, introduced 37 participants consisting of school teachers, teacher-training specialists, and government and industrial officers to programming processes. Participants who were school teachers had practice in preparing programmed materials suitable for use in West African schools.

A follow-up workshop at Zaria carefully reviewed a group of commercially available programs that might be used to upgrade teachers' knowledge of the subject material they were teaching. Particular attention was paid to programs in geography, mathematics, science and English. Participants also tried to establish the programs' teaching validity, trying them on a group of grammar school pupils.

The Accra (Ghana) workshop consisted mainly of school teachers and officers in the West African ministries of education who had not attended the previous workshops. The Accra workshop was much similar in organization to the Ibadan workshop of 1963. In 1967 and 1968, a two-year research project on evaluative uses of programs was sponsored by the British Ministry of Overseas Development. About 250 teachers in the former Western State of Nigeria participated in evaluation studies based mainly on science programs used in senior classes of secondary schools.

Prospects for Programmed Instruction

The interest in programmed instruction has been generated by rather lofty and sometimes unrealistic hopes initially proclaimed by the sponsors of the new instructional device. For instance, the introduction of programmed instruction in West Africa has been followed by the often expressed view that the

new instructional device might provide the answers to the pressing educational problems of the developing nations of Africa. Indeed, the director of the three workshops on programmed instruction in West Africa saw the new instructional device as offering the opportunity for a significant breakthrough in education. Hopes were expressed that the "translation" on a massive scale of programs developed in America and elsewhere would provide effective teaching materials for Africa. These hopes were not based on any long-term empirical evidence, but on the results of severely limited experiments in West Africa.

If, in haste to introduce programmed instruction into schools, considerable time and a part of developing nations' limited resources are spent on developing miscellaneous programs at all class levels, a patch-work curriculum may result. Definitive and empirical evidence must be obtained in these developing nations, rather than in Great Britain or the United States, before schools begin to expend money and effort on the introduction of programming into the curriculum.

In developing programmed instructional materials, factors to consider include the following: (1) criteria for the best possible programmed texts; (2) how students learn best, given particular subject areas; (3) how students react to the kind of thinking necessary when using programmed instructions; and (4) whether students regard the subject matter differently when taught with programmed texts.

Some conclusions about programmed instruction in Nigeria can be made on the basis of research findings. For example, programmed instruction is a more effective approach to learning map reading than conventional text instruction because it promotes both learning and more favorable attitudes. This is true irrespective of differences in school environment or sex and taking into account family and cultural differences, variation in language background, incentive to progress in school, and curricular content. Evaluation studies related to the potential uses of microteaching in teacher education programs have been carried out at the University of Ibadan, Faculty of Education CCTV studio. However, like many innovations in the field of education, microteaching has both its strong supporters and critics.

Problems in the Use of Technology

The use of educational technology in Nigeria has had poor results for many reasons. These include lack of adequate funds, trained personnel, facilities, and other related conditions necessary for effective use of media in education. These problems are of particular significance when the media

involve heavy and sophisticated equipment and require skilled personnel, special operating facilities and support services. Television, radio, films, and language laboratories belong to this category.

Climate is another problem. The hot and humid climate in the country reduces the life expectancy of equipment and materials. They wear and break down quickly; and, because spare parts and repair facilities are not readily available, they remain unused for several months or even years.

Inadequate planning often results in ineffective media use. Sometimes the use of media has been haphazard and not properly integrated with other approaches in curriculum development. Coupled with these problems are those of designing and producing appropriate educational programs, developing effective strategies for adapting educational resources for optimum productivity, and designing valid and reliable evaluative approaches.

Recommendations for Future Development

To meet the problems highlighted in this paper, good planning, proper programming, and effective management are important prerequisites. In order to satisfy these prerequisites, skilled personnel in educational technology are needed. It is not enough to distribute equipment and materials to schools in Nigeria, opportunities must be provided for the users in schools to learn and acquire basic skills in the use of equipment and materials provided. Such skills can be acquired through systematic studies at universities or colleges of education and through workshops and inservice training courses. Some of the Nigerian universities and colleges of education have excellent facilities for providing training in educational technology. These programs should be organized in such a way that students could readily apply their skills to improve curriculum development. In other words, efforts should be directed toward the marriage of educational technology to the techniques of curriculum development.

The current practice of teaching courses such as *Teaching Aids*, *Audiovisual Education*, and *Educational Technology* in isolation from other courses such as *Geography Methods* or *Principles of Education*, calls for urgent revision. Apart from student-teachers, teachers in the field also need to update their knowledge and skills in educational technology. It would be quite useful if workshops and inservice courses on educational technology and its relevance to curriculum development constituted a regular feature of curriculum development activities. Such courses should consider the production and application of locally made teaching aids to meet school needs.

The inability of instructional technology to fit easily into

normal school organization has been a serious problem. Use of television in its broadcast form or as part of a large closed-circuit network, for example, necessitates the school time-table being drawn up around set times. Problems also arise from the fact that most schools must work within the architectural framework of classrooms that are inflexible boxes of roughly similar sizes. School buildings for the future must be much more flexible, especially in terms of classroom size. There should be large rooms for team teaching, medium-sized rooms for small classes, and small booths for students to work on programs and individual projects. Rooms should be made to be able to vary in size to accommodate changing needs of students. This is already happening in some advanced nations and, by careful planning, it can happen in Nigeria.

The implementation of the suggestions so far will require a lot of money. With the oil boom in Nigeria, too many projects open up which flourish one year and disappear from sight a few years later because the funds run out. One way whereby this nation can arrest such situations is to stop basing curriculum reform programs entirely on foreign funds and expertise. With the revenues from oil, the Nigerian government has already committed itself to giving support and reasonable subvention for the development and application of educational technology in curriculum development. This is a wise step in the right direction and it speaks well for the future of educational technology in Nigeria.

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CASE STUDY #9

Inservice Teacher Training in Kenya: An Application of Distance-Teaching

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The Correspondence Course Unit (C.C.U.) was established at the University of Nairobi in 1967 as a nonprofit-making government-supported, distance-teaching unit. The main objectives were:

- to develop correspondence and other distance-teaching methods for educating adults and out-of-school youths in Kenya
- to act as a "service agency" for government ministries in their training and upgrading programs
- to develop expertise in distance-teaching methods and in the evaluation of the effectiveness of these methods
- to set up a flexible administrative machinery to deal with correspondence courses at higher levels, including degree courses

Now in 1977, having achieved some degree of success in the first three objectives, the Correspondence Course Unit is implementing its fourth objective, that of providing degree courses by correspondence.

The Background of Correspondence Education

Kenya attained political independence in December 1963, when a democratic republic was set up within the Commonwealth. Since then it has embarked on social, economic and educational development of the country. One of the government's chief educational aims is to achieve universal primary education for all school-age children, necessitating qualified teachers in large numbers. The Ministry of Education has, therefore, continued to strengthen and expand the training and upgrading of programs for teachers.

The situation facing the educational planners during the early years of independence was not unique to Kenya; it followed a pattern found in many developing countries. This included a high percentage of illiteracy among the adult and working population, increased school enrollment as a result of growing public demand for education, increasing numbers of school leavers who cannot be absorbed into the monetary economy, out-of-date curriculum, shortage of money, and shortage of qualified and experienced teachers, trainers, and administrators.

In order to provide education to more children, the Ministry of Education had to employ considerable numbers of under-qualified or even unqualified teachers in the schools during the early years of independence when educational expansion took place in all directions. It also increased enrollments in the primary teacher training colleges by 50% between 1963 and 1970. At the same time, the colleges themselves were reduced in number from 32 to 24 in an attempt to consolidate the facilities and the resources then available.

In spite of these developments in teacher education, the total output of these colleges could not match the rising demand for qualified teachers or even replace the existing unqualified staff in the schools. Hence, the Ministry of Education established inservice teacher training and upgrading programs as the only way of providing more qualified teachers. Because the programs permitted teachers to obtain academic and professional qualifications while employed, teachers quickly accepted them.

Correspondence education, another possible source of training, was not highly regarded in Kenya at that time, mainly because of the unsatisfactory record of the numerous commercial colleges which were operating throughout the East African region. These colleges were based in Britain and America, and the courses they offered were irrelevant, out-of-date, and expensive. The dropout rate of students was estimated to be 70%. Adult students enrolled with these commercial colleges because there were no other possibilities for self-improvement for those who did not gain admission to formal institutions or who lived too far away from the main towns to attend evening classes.

Correspondence education in Kenya was first proposed in 1964. After much study the Government of Kenya sought technical assistance from the United States Agency for International Development (USAID) for the establishment of the Correspondence Course Unit in the Institute of Adult Studies, University College of Nairobi.

Correspondence Courses for Teacher Preparation

Top priority was given to courses preparing adults, particularly upgrading primary school teachers. According to the Annual Report of the Ministry of Education, there were 37,923 teachers employed in Kenya's primary schools in 1968, 27% of whom were not professionally qualified.

Normally, a P3 teacher will have had seven or eight years of primary education plus two years of teacher training. For such a teacher to become eligible for promotion to the next higher grade of P2, he is required to pass a national examination, the Kenya Junior Secondary Examination (KJSE), which is formally taken after two years of secondary education. Thus,

the first correspondence courses were aimed at preparing these teachers and other adults who had completed primary education, for the KJSE. The courses were later extended to cover the four-year secondary level.

Correspondence Courses for Unqualified Teachers

In 1969, the C.C.U. offered a second program for inservice training of unqualified teachers (UQT). The UQT upgrading course is intended to improve the teaching effectiveness of previously untrained teachers. The program consists of a year's study of methods of teaching and a second year's study of academic courses--English, mathematics, and either history or geography. Those who successfully complete the correspondence course and pass the final examination are upgraded to P3 status.

A survey conducted in 1968 revealed that 90% of C.C.U. students are teachers. The remaining 10% include clerks, farmers, housewives, and members of the armed forces, police, and cooperative staff. A typical student is between 21 and 40 years old, married, and has more than four dependents, including members of his extended family. His house has no electricity, and he owns very few books. He may have access to a very small library, but it is probably miles away and impossible for him to use regularly. He does not buy a newspaper, but he does own a radio which is his principal source of news and information about his own small community.

Stages of Program Planning

During the initial stages of project planning, there were certain critical decision points which are summarized below to show how the strategy was selected in establishing the Correspondence Course Unit.

First Stage. The decision to establish the C.C.U. as an integral part of the Institute of Adult Studies within the university setting was a sound one. In this way the Unit was in a position to recruit and retain the best qualified personnel available. It was also in a better position to serve more than one government ministry and retain a fair amount of autonomy in its day-to-day operations.

Second Stage. The training of Kenyan personnel was given emphasis not only at the middle and lower cadres but also at the higher executive levels. The training was carried out on the job and, in certain cases, in some overseas training institutions which had experience in correspondence instruction.

Third Stage. The choice of the media was done in consultation with other service agencies such as the postal and broadcasting service. The postal service in Kenya is reasonably efficient and most correspondence students could be

reached in a turn-around time of two weeks--that is, from the time a student submits his written assignment to the time he receives feedback from his part-time tutor. Radio was found to be a useful supplement to the correspondence instruction and the Voice of Kenya authorities were willing to provide the air-time free of charge.

Fourth Stage. A decision was made to try to pace the students enrolled in the Unqualified Teachers Program so that specific dates were set for enrolling at a particular time, completing a certain number of written assignments, attending a residential course during the school vacations, and taking the final examination. This made a closely controlled and paced program with high completion rates. Although there are obvious advantages and disadvantages in unpaced correspondence instruction, generally the student should be guided into a systematic study.

To date the C.C.U. has offered the following subjects: English, Kiswahili, history, geography, modern mathematics, human and social biology, and physical science. In addition, the courses range over other areas of use to adults such as bookkeeping, commercial knowledge, and commercial arithmetic. The instructional programs include the following:

- provision of teaching materials--correspondence study guides, textbooks, maps, mathematical instrument sets, and science experiment kits
- radio broadcasts supplementing one or more study guide lessons
- marking of students' lessons by qualified secondary and university teachers
- occasional face-to-face teaching during residential courses

All lessons in the study guide contain selective (rather than exhaustive) self-test exercises with which the student checks his understanding of the study material. Alternate lessons also require written assignments to be submitted to the C.C.U. for marking. The C.C.U. draws upon the services of about 50 practicing teachers in Nairobi as part-time course markers. Enrollment is open throughout the year, and a student can work as fast as he is able to, depending on the amount of time he can devote to his studies and on his knowledge of the subject. Some students have been able to cover the two-year KJSE program in one year. Others have taken longer than two years.

Evaluation of the Program

Since 1968, the C.C.U. has carried out various analyses of the students' performance in the program. The results reveal that the candidates who have studied with the C.C.U. have

performed significantly better than other candidates taking the same examination, averaging 48% pass rate in contrast to 8% to 30% of others.

Encouraging as the above results for the C.C.U. candidates are, it is too early to conclude that they indicate success. It has yet to be demonstrated that a P3 teacher, for example, improved his performance in the classroom after being upgraded to the P2 grade. Nevertheless, for most C.C.U. students, this was the first time they had ever been engaged in an organized and systematic form of study since they left formal institutions. This has been confirmed by many letters from successful students who felt that they benefited from the correspondence courses and that they received personal tutoring through the post and radio from teachers they probably had never met.

During the 1969-72 period, over 10,000 unqualified teachers successfully completed the upgrading courses through radio, correspondence, and residential study and have been awarded Primary Teachers Certificates.

Future Plans

The 1974-78 Development Plan has stressed that "correspondence courses and radio programs must remain the main vehicle of out-of-school education." It has, therefore, recommended expansion of the existing media facilities to cover mass rural adult education. The University of Nairobi has accepted, in principle, the future introduction of external degree courses. The C.C.U. will be responsible for the general administration of these courses, while the teaching and the conduct of examinations will be the responsibility of the faculty conferring the degree.

The C.C.U. also plans to expand its programs to include vocational and technical courses. The business education courses now available are all at an elementary stage and will be developed to more advanced stages.

Conclusions: What Has Been Learned

Government Commitment

This case study demonstrates the critical importance of a definite commitment from the government in such an educational venture. Its success is largely due to the close consultation and cooperation between many different bodies: the Ministry of Education, the Ministry of Information and Broadcasting, and the University of Nairobi. Because the Correspondence Course Unit was set up within the university, it was able to attract and recruit staff of high calibre and to have access to a wide range of expertise.

Flexibility

The flexibility of C.C.U.'s structure and operation have made it possible to cope with the changing educational needs of the country and to cater to different groups of students at different levels. The unit is now able to widen its activities to include, at the one extreme, mass rural adult education, and at the other extreme, external degree courses for the University of Nairobi.

Costs:

A project such as C.C.U. is an attractive economic proposition to a government with limited resources. Once the distance teaching unit has been set up, complete with its operations and network, it is relatively easy to modify course content as dictated by needs. The student numbers can also be increased considerably without a corresponding increase in the number of full-time staff or in the capital outlay on buildings and equipment. Economies of scale have gradually been realized as the student enrollments have continued to rise with more course offerings. Over the last ten years, no increase in the fees has been charged to the students, and the government's annual contribution to the recurrent C.C.U. budget has been maintained at about the same level, although the student numbers have more than doubled during that time. Recent changes in teacher education programs in Kenya will mean even higher student enrollments and, consequently, much lower recurrent cost per student than at present. One of the advantages of distance education is that it is cheap and cost-effective. It can exploit economies of scale; it can make full use of existing facilities and services from other institutions; it can make more efficient use of the time and skills of educators and trainers who are in short supply. The teachers and other adults receiving their education and training through distance teaching methods can continue in jobs and earn their livelihood, contributing to the country's economy, rather than being a financial burden.

Continuing Education

A system of continuing teacher education to produce long-term benefits in a country's educational development cannot depend upon the use of slow and expensive traditional methods. Distance teaching methods might be the most practical and effective solution.

Combination of Media

The use of combined media forms has been the one distinguishing feature of the Kenyan project. Because teaching methods are frequently based on the available media, the

combining of different materials has helped to compensate for the deficiencies of any particular method when used by itself.

Two major constraints

There are two major contraints in the use of radio, print, and face-to-face instruction. *First*, although it has been fairly easy to increase the scale on which printed materials are broadcast and distributed, it has proved much more difficult and expensive to set up the right arrangements for face-to-face instruction throughout the country. *Second*, while it is relatively easy to distribute correspondence lessons, it is much more difficult to organize and receive comprehensive feedback and evaluation from the learners. Nevertheless, the potential of distance teaching media is gradually being realized in many developing countries such as Kenya, where a large majority of the people are in great need of information, education, and training.

(For further information, write to the Project Director, Correspondence Course Unit, University of Nairobi, Nairobi, Kenya.)

CASE STUDY #10

Mass Primary Education in the Philippines: Toward an Innovative Delivery System

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Program Description

Project IMPACT (Instructional Management by Parents, Community, and Teachers) is a program for the development of an effective and economical delivery system for mass primary education. Project IMPACT operates within the framework of the public school system, hence the learning continuum is basically that prescribed by the Department of Education and Culture.

However, Project IMPACT integrates this learning continuum through the medium of learning "modules" developed by a team of subject matter specialists. The shift from the traditional graded structure where one teacher handles one grade throughout the school year to that of modular learning triggers a succession of other changes in the instructional methodology.

Project IMPACT operates on a non-graded basis. Pupils are organized as "families," and one teacher handles children of all levels. Modular learning is individualized or accomplished through peer groups and tutors. Primary children are tutored by intermediate pupils, who in turn are tutored by high school students. Progress is continuous, but mastery learning is stressed. The school becomes a community learning center.

The economy of the delivery system is achieved through the teacher. The variations in the instructional system make it possible to reduce drastically the number of professional personnel. The teacher no longer "teaches;" she manages the instructional components. She is able to handle from 100 to 200 pupils with the assistance of a non-professional aide. Supervisory personnel is reduced from one building principal per school to one rural school coordinator for all the five experimental schools. Thus, professional personnel are reduced by three-fourths.

The writing team of subject matter specialists is not necessarily an additional expense item. It is projected that if the components of Project IMPACT are to be adopted on a larger system, a similar team will serve the entire system.

Project IMPACT in Naga, Cebu, Phillipines, is on its fourth consecutive year of experimentation. Five rural schools make up the pioneer experimental setting in accordance with specific criteria for the sites.

Two other extension sites have been established, starting with the school year 1977-78. One of these two is in Lapu-Lapu City, also in Cebu. The new site, a semi-urban area, involves three schools which will utilize the same materials produced for Naga.

The second site is in Sapang Palay on the island of Luzon. The site is one large school of more than 1,000 pupils. Although it is within 20 miles of the capital city of Manila, the place is populated by families relocated from the city as a result of urban renewal projects of the government.

The Need for Greater Efficiency

The Colonial Legacy

Most Asian countries have one thing in common--each experienced the painful travails of being a colony of another nation. The colonizing powers, perhaps meaning well at the time, simply transferred and imposed their own educational system on their subject peoples. In fairness to all, it may honestly be said that the system laid down by the colonists was the best possible under the circumstances. Gains in the academic and professional fields were substantial and quite useful.

In time, Asian countries developed an uncontrollable restlessness. This political search for an identity and eventual independence spawned a parallel ferment in the educational and socio-cultural area. Western thinking as expressed in the educational systems was an anachronism, dysfunctional, and utterly ill-fitted to the oriental mind. There is an urgent need to redirect the educational systems to conform with the Asian aspirations and ways of thinking and acting.

However, by the time the Asian educator was ready to take on the responsibility of managing the educational system of an independent people, formidable problems, not of his making, had developed which had direct bearing on the education of the citizen. The Philippine situation is typical.

Although alien to the ethnic culture, the borrowed educational system has had time to settle and be tolerated, if not accepted, by those who have profited from it. On the other hand, the same system has failed to educate more than half of the population. This failure, of course, is a function of economics. Although the proportion of the Philippine national budget devoted to education is quite substantial, more than 90% of this is earmarked for salaries of personnel alone. The

amount allocated for such items as books, instructional materials, and staff development is insignificant.

The need for more and more teachers and other school personnel in the traditional graded structure is being caused by an unprecedented growth of the population. Ir a society which values education highly, the impact of this population growth on the educational system is tremendous. Where physical facilities are lacking, children have to be turned away--or else make-shift shelters masquerade as schools.

Unfortunately, mere love for education cannot sustain schools. In the rural areas, where 70% of the population lives, there is a constantly high dropout rate. Again, the reasons can be traced to economics. Children are needed for the day-to-day struggle for survival; poor nutrition and poor health increase this desperation and, in spite of its being "free," the rural family can ill-afford the cost of primary education. Thus, before a rural child can finish a six-year elementary school education, he drops out.

The concern for the plight of the out-of-school youth, which the government has recognized as urgent, has increased the problems of the formal school system. Whatever available financial resources that could have been added to the formal school budget, must now be channeled for out-of-school education programs.

All in all, the sheer enormity of the problems of education is overwhelming. If the greater problem is quantitative and specifically financial, then solutions must be so directed. Project IMPACT demonstrates one such solution.

Development of the Program

In August 1972, the Southeast Asian Ministers of Education Organization (SEAMEO) organized a Technical Working Group composed of key educators from the eight member countries to identify priorities for SEAMEO. Out of the work of this group came a decision to undertake research on the difficult problem of an alternative delivery system for mass primary education, which must be more economical but at least just as effective as the existing systems of the region. It was initially decided that the research be conducted in two member countries of SEAMEO, the Philippines and Indonesia. This report cites mainly the experience of Project IMPACT in the Philippines.

Methods of Instruction

As the name suggests, Project IMPACT is an instructional management system in which the parents and the community collaborate and cooperate with the school teachers toward the education of the child. It has also been referred to as

a delivery system of education aimed at reducing the total cost of education without sacrifice of its quality. The Project has many innovative features which have no parallel in the traditional system of education in the Philippines today.

Learning through Modules

Under the traditional system, it is "normal" for a public school child to go through a whole year of schooling without benefit of a textbook. At best, he will share one with ten other classmates.

In the IMPACT system, the child is assured of reading material throughout the year in the form of modules developed by subject matter specialists. He may go through each module either individually or with a peer group or tutor. In view of individual differences, progress through modules is self-paced, but only after mastery has been demonstrated. Self-pacing implies that IMPACT is ungraded. Progress is indicated by the number of modules completed by a child. Children no longer refer to themselves as second or fifth graders; they simply say what module they have reached in each subject.

For the first three years of the project, separate modules were developed for each subject area. For the school year 1977-78, an attempt was made to integrate all modules into one continuum using two core areas: communication arts and mathematics.

Learning through Tutors

In a traditional classroom, where one teacher handles as many as 40 children, the teacher usually directs her attention and teaching only to some impersonal "average" child. Under IMPACT, children of levels I, II, III are assisted by pupils of levels IV to VI for one hour each day. In turn, levels IV, V, and VI are tutored by secondary level students. These tutoring sessions are part of the regular school day.

Learning with Peers

For levels IV-VI, the usual mode of learning is through peer groups. Membership in a group is more or less permanent for the school year. Each group is responsible for the progress of each member. A group, usually made of 6-8 members heterogeneously composed by ability, goes through a module together for three hours every day. Each member is given a chance to lead through oral reading at specific points of a module.

Notwithstanding peer group learning, each child must demonstrate his mastery individually. To provide for both slow and fast learners, IMPACT provides one hour of the day for individualized study. Responsibility is developed with a group

through a system of contracting, in which a group promises, in writing, to complete a number of modules for the week. Due recognition is made of the performance of each group with respect to its contract.

Learning from Community Members

Project IMPACT tries to fully exploit skilled personnel resources in the community. Children may either go to the resource person, or the resource person may come to the school. In practice, the assistance of one resource person for one day per month is sufficient to teach specific skills--usually vocational arts, home economics, science, and social studies. The coordination of community cooperation is a specified function of the rural coordinator.

The Teacher as Instructional Supervisor

The foregoing features of Project IMPACT seem to suggest a different role for the teacher, and rightly so. In order to emphasize this change in operation, the name of "teacher" has been changed to Instructional Supervisor or simply I.S.

Much of the work of the I.S. is management: she supervises the distribution of modules; she organizes tutors and programmed teachers; she attends to peer groups. For these responsibilities, she has the assistance of a teacher aide. Her one major professional task is the evaluation of the progress and achievement of each child.

In the five IMPACT schools, 75 school personnel serve approximately 3,000 students. Each I.S. in the IMPACT system should be able to handle from 100 to 200 children.

Organizing the Learners

Since IMPACT is non-graded, the usual categories of children by grade levels do not apply. Instead, the entire school population is divided into "families" of from 40 to 50 multi-level pupils. One instructional supervisor handles 2-3 families, provided the entire group she manages does not exceed 200 pupils.

The composition of each family is governed by certain criteria which will induce the development of responsibility and contribute to the socialization of the members.

The School as Community Learning Center

Project IMPACT deliberately opens its school doors to the public. In view of the availability of modules, which are based on the learning continuum of the public school system, adults (out-of-school citizens) may complete an elementary education through individualized study, using the modules.

The Modules

Each module has the following characteristics:

- clearly stated objectives and instructions for learning
- short learning sequences followed by evaluation, exercise and feedback
- review and practice
- post-tests and remediation provided by tutors

Five to ten modules form a block. A block post-test follows the completion of one block.

Each module is made up of about five lessons. Each lesson has its own objectives, self-administered post-tests, feedback, and remediation. The final lesson in a module is a comprehensive review to ready the child for the module post-test.

Modules generally take from three to five hours to complete (approximately one school day).

The Role of the Instructional Supervisor

The objective to effect an economical delivery system of mass primary education is attained mainly through a drastic change in the number of teachers. A reduction of 14 teachers to 2 Instructional Supervisors for an equal number of pupils is no small accomplishment, considering that quality is maintained.

In such a situation, the role of the teacher, now called an Instructional Supervisor, assumes a vastly different nature. Perhaps the best single way to describe her role is as a facilitator of learning. As such, she retains all her professional functions and responsibilities without conducting classes, recitations, lectures, or demonstrations as she would in a "traditional" system. Instead, her tasks have become more managerial and organizational. Her main professional task involves a large amount of evaluation.

Briefly, then, the role of the Instructional Supervisor may be divided into two categories: Management and professional. The management function may be further classified into two sub-tasks: grouping of pupils and scheduling of learning.

Grouping of Students

Families. Each Instructional Supervisor is responsible for the learning of 2-3 "families." Each family has approximately 50 children of all grade levels, broken down, for example, as follows: Grade I--10 students; II--10; III--9; IV--7; V--6; VI--6.

Peer Groups. Peer group learning is the mode for Levels IV-VI. Each peer group, within the families of an instructional supervisor, is composed of six to eight members. In addition

to the criteria for family grouping, heterogeneity of ability of members is desirable in the groups.

Programmed-Teaching Groups. The mode of learning for Levels I-III is programmed-teaching, using specially prepared materials. Level VI pupils program-teach Level I; Level V program-teach level III; and Level IV program-teach level II.

Each programmed teaching group is made up of eight to ten children from among families of an instructional supervisor. In contrast to the peer groups, the programmed teaching groups are fairly homogeneous in ability. Homogeneity is by subject, hence there are some changes in group membership for different subjects.

The Guidance of Learning

The professional pedagogical functions of the Instructional Supervisor are exercised through the monitoring and guidance of the learning activities of the children in any mode: programmed-teaching learning, peer-group learning, tutoring, or individualized learning. A prime responsibility of the I.S. is to carefully monitor the learning process, in order to diagnose difficulties or identify problems and afford help, correct deficiencies, and provide guidance--thereby gaining the title of "facilitator of learning."

To monitor learning, the I.S. makes use of the following: (1) personal observation by periodic visits to all learning groups, (2) daily reports of the aide, (3) pre-and post-test results, (4) discussions with the aides and pupils, and (5) personal knowledge of pupils' abilities.

Administrative Problems

Public Relations Problems

The most critical problem which faced the project was gaining acceptance, not necessarily by educators but--surprisingly enough--by parents and community. It was assumed that objections, even roadblocks, would be faced so general acceptance was not taken for granted.

The issue was met head-on with a vigorous promotional campaign, starting with the Governor of Cebu and with the Mayor of the Municipality of Naga. Both readily extended their support.

Project IMPACT was started by no less than a formal launching during which the presence of the Undersecretary of Education, the Governor of Cebu, the Regional Director, and the Municipal Mayor helped to endorse the project to the atterding school and community officials and parents. The parents themselves were the object of an individualized campaign. The entire province of Cebu was saturated with media information dissemination.

In the end, the commitment and participation of parents and community was formalized through the creation of a local steering committee in each village or barrio.

Production Problems

Initial Production Problems of Modules. Most initial problems were the result of two factors: the inexperience of the writers and the effect of changes in personnel. To assist the writers, external advisors had to be recruited who were familiar with the writing of modules. In time, the writers developed the necessary skills, and the number and composition of the personnel stabilized itself.

Quality of the modules. Currently, the original modules are being rewritten as an inevitable consequence of their integration into one continuum. As they are rewritten, their quality is improved. Physically, it is planned to print the modules, which are currently only in mimeograph form. The attempt to produce two kinds of modules--linear and branching--created difficulties which were eventually resolved by abandoning the production of branching modules.

Instructional Problems

Individualized Learning. This was the initial mode for learning through modules. Under this scheme, the child was free to study either in school or at home. One adverse effect was absenteeism. In turn, this resulted in great disparities in both the rates and amount of progress. The issue was resolved by the use of peer group learning and a standard attendance requirement.

High School Students as Tutors. This was a two-pronged problem: First, in a rural community, few high school students live in the immediate vicinity of the schools; second, very few volunteered to serve as tutors. A standing policy of the Department of Education and Culture was a welcome, built-in solution. The policy requires all high school students to undertake civic action work as a prerequisite to graduation. Tutoring in IMPACT schools was accepted as legitimate civic action work.

Too Many Modules. The initial enthusiasm of the module writers resulted in the production of more modules than could be finished in one school year. This problem is being resolved through continuous module integration. The final number of modules will be about 150 per grade level. With at least one module studied per day, 150 modules can be effectively studied during the 185 school days in a year.

Lack of Direct Teacher-Pupil Interaction. This is one consequence of the teacher's changed role, which has deprived the child of a voice model for both English and the national language. For the current school year, the local government

radio station has graciously allocated two half-hour broadcast times for the project. Production of the materials for voice models including cassettes is going on.

Program Evaluation

Although no extensive evaluation of the entire project has been undertaken as yet, there have been several evaluation teams who have scrutinized various components of the system and made suggestions for improvement. In the near future an external consultant will conduct a cost-benefit analysis of the program. After 1979 it is hoped that there will be a wider adoption of the concepts of Project IMPACT. As a gradual step, one of the thirteen educational regions will be asked to adapt IMPACT concepts within the region.

The Department of Education and Culture has developed two achievement tests, one for lower and the other for upper elementary education for which norms have been developed. These will be utilized as pre- and post-evaluation measures.

Conclusions: What Has Been Learned

Perhaps the most comforting to the educational innovator is the realization that even the most unlettered communities can accept sophisticated educational concepts and practices. While most parents have no choice but to patronize the school nearest to their children, the fact remains that their cooperation with IMPACT schools has increased. This must be taken as a sign of their continuing faith in the school system.

The school child is a pleasant surprise. The project has demonstrated that he can learn by himself, and even help instruct his peers and younger bothers and sisters.

The disappointment is the academic reaction. The most vocal criticisms come from professionals--even if they have never seen the project in operation, nor understood its concepts.

A developed country with an awareness of regional educational problems with potential global implications can share generously of its resources in the search for solutions to such problems. Such is the good luck of Project IMPACT. From the time of its launching in January 1974 to the present, the International Development Research Center of Canada has provided the needed funds for IMPACT's operation, as well as for other related activities that emerged during its operations. Those persons connected to Project IMPACT are deeply grateful.

All in all, the most important lesson is that *it can be done!*

(For further information, write to the Director of SEAMEO Regional Center for Innovation and Technology, College of Education, University of the Philippines, Diliman, Quezon City, Philippines.)

CASE STUDY #11

The Basic Village Education Project: Guatemala

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Project Description

Government agencies in developing countries have long been concerned with determining the most cost effective way of communicating important information about the improvement of agriculture to small subsistence farmers.

The Basic Village Education Project (BVE) is an experimental program to determine the effectiveness and relative costs of imparting information about agriculture to rural people using different combinations of communications techniques. These techniques consist of radio, a local village monitor to follow-up on radio broadcasts and an agronomist to provide technical assistance to farmers.

Four different media mixes or message delivery systems for providing educational information to the target audience, are being tested, three of them using radio. Matched experimental and control areas have been established and results of the use of each combination are being measured through a rigorous evaluation of the program's impact on knowledge, attitudes, and agricultural practices among the subsistence farmers.

The B.V.E. is jointly funded by the Government of Guatemala and the United States Agency for International Development (USAID). It is administered in Guatemala by the Ministries of Agriculture and Health. Foreign personnel and other technical assistance are provided by the Academy for Educational Development of Washington, D.C. under contract to A.I.D.

The Project which started in 1974, has accumulated a wealth of operational experience and this is reported in a series of reports written on the various aspects of program development, management, operation, and evaluation.

As currently programmed, the Project will have a total duration of approximately four and one-half years -- a final report should be available before the end of 1978.

Social and Economic Background

Guatemala is a small, agricultural country of nearly six million people.

About two-thirds of the population is situated in the rural areas, and over 60% of the labor force is engaged in agriculture. The rural inhabitants suffer from low income, poor health, and high infant mortality. Estimated per capita income in the rural areas averages about $75 - $100 annually, compared to a 1973 national per capita income of $406.

The country's illiteracy rate was estimated at about 62% in the early 1960's but is substantially higher in rural areas. Education is available to perhaps two-thirds of the rural population. In 1971, however, less than 40% of the population between the ages of 5 and 14 attended school. Only 2% of those who enter the first grade complete the sixth grade.

The majority of Guatemala's approximately 450,000 farms are very small; 88% of the farmers own only 14% of the land, usually of the poorest quality.

The small farmers grow corn, beans, wheat and, on a lesser scale, potatoes and sorghum. Crop yields are low. Although studies have shown that production could be increased significantly through the judicious use of fertilizers, insecticides, and other inputs, fertilizer use remains low. The economic importance to Guatemala of small farmer production is indicated by the fact that although small Guatemalan farmers occupy less than 20% of the nation's agricultural lands, they still produce about half of its corn, beans, wheat and sorghum.

The capability of the Guatemalan government to deliver basic health, education, and agricultural services to the rural areas is limited. Due to a variety of cultural, linguistic, political, and historical reasons, small subsistence farmers remain difficult to reach with development programs.

Need for the Project

Traditional methods for reaching the rural poor have proven slow and expensive. The determination of more cost effective ways would be of great significance to not only Guatemala but to all countries of similar background.

Although literacy has often been considered essential to the modernization process, the prospect of bringing this basic personal skill to the large numbers of illiterate and geographically dispersed farmers in the rural areas of

Guatemala is unlikely in the future.

Radio, offered the possibility of communicating useful and relevant knowledge widely and at low unit cost to the rural population in a manner that did not require literacy. Such an approach appeared to be a viable and relatively inexpensive alternative for supplementing existing efforts in the areas of agricultural development.

The Basic Village Education Project was conceived as a carefully controlled experimental project to address the types of needs identified above: to develop an information and education program not requiring literacy; to determine relative costs and effectiveness of radio combined with other communications media for imparting knowledge to the rural population of Guatemala.

Based on the positive results of a feasibility study, USAID entered into an agreement with the Guatemalan Ministry of Education in late February 1973, to proceed with the Basic Village Education Project. Under the terms of that agreement, USAID provided a technical assistance team to work with Ministry of Education staff assigned to the Project. Together they developed a detailed plan of implementation.

Development of the Project

The Project is a controlled experiment to test the relative effectiveness and costs of various communications media mixes, including radio, to deliver information to rural people.

Program content is focussed on agriculture - the production and marketing of basic crops - as an area of development in which changes in attitudes and practices can be measured in a relatively limited period of time and for which at least a minimal infrastructure existed.

Three message delivery systems representing increasing degrees of saturation with information were chosen as the communications variables, with radio common to all. (A system which did not include radio was added as a fourth variable in 1975). These systems are imposed on matched groups of communities selected on the basis of criteria developed by the project team in accordance with general project parameters. Separate groups of communities satisfying the same criteria are maintained as program-free control areas.

System R is the use of radio alone. *System RM* is the use of radio plus the addition of a village radio monitor assigned to encourage radio listening habits and repeat the same radio messages through the use of cassette recorders,

flip-charts and discussion. *System RMA* is the use of radio plus radio monitor and the addition of technical assistance by a visiting agronomist. *System M* is the use of monitor alone.

The four-component system assures that localized and practical education messages concerning rural problems are developed and delivered in logical sequence at the right time through appropriate media. Comprehensive feedback information is collected from the field and quickly fed back into the system to improve the quality and acceptability of program output.

Message Development

The message development process involves seeking out, assessing, organizing, and integrating information from three distinct categories of sources: (1) the people to whom the message will be directed, (2) the institutions which generate technology and information, and (3) the institutions which provide farmers with needed goods and services. In addition, information is obtained from BVE baseline and other surveys, feedback reports, and frequent visits to the region.

The Ministry of Agriculture is the Project's primary source of technical informtaion on agriculture.

The BVE agricultural message must include information that will help farmers to gain access to the credit, inputs, markets, and other services they need in order to benefit from new knowledge gained from the program. It must also avoid recommendations requiring goods or services to which the farmers have no access. Failure to adhere to these principles can only lead to frustration on the part of the farmers, and, consequently, a loss of program credibility in their eyes.

Production of Audio and Graphic Materials

The materials production process starts with development of an annual calendar of agricultural messages indicating the times at which agricultural themes should be used in order to synchronize with the agricultural cycle in each region. Information sequence, the most appropriate media for different kinds of information, and the need for reinforcement through repetition and/or multi-media delivery are all considered. Specific educational objectives and information to be presented through each medium on each day provide the basis for scheduling materials production.

The graphic arts section develops sketches of needed visuals, flip charts and posters are reproduced by silkscreen, and handouts materials are mimeographed.

Message Delivery

Four delivery systems for imparting agricultural information to farmers constitute the variables presently under test in the BVE Project. They are not, however, completely independent variables. The same messages are delivered through all four systems, and those messages may be modified or changed as a result of feedback from the monitors or agronomists who, as described below, are not common to all systems.

System R (Radio). Educational messages reach the target audience only through mass media in this system. BVE installed two radio stations, each one on the air eight hours a day, Monday through Saturday. About 20% of BVE radio programming is agricultural in nature. The remainder is devoted to music, local color, and other types of non-agricultural programming needed to attract and maintain a large listening audience.

System RM (Radio-Monitor). In this system, interpersonal contact with farmers through a "monitor" is added to mass media delivery. The monitor is a person from the immediate area who is employed and trained by the project to work directly with farmers in his own and three or four nearby villages.

The monitor visits each of his assigned villages once a week and invites farmers to attend the weekly radio forum meeting in late afternoon. At the meeting, he uses a 30-minute prerecorded cassette played on a small battery-operated recorder, flipcharts, and handouts as aids in delivering the same agricultural message of the week as broadcast by the radio.

System RMA (Radio-Monitor-Agronomist). This system is the most intensive; it includes mass media, a monitor, plus a low level of technical assistance (the equivalent of about 600 families per agronomist). The BVE field agronomist works with the monitors in the villages, conducts crop demonstrations, helps to identify local crop production problems, and advises farmers.

System M (Monitor-only). This system, added in 1975 to ascertain the effect of the monitor apart from that of the radio, utilizes a monitor working in an area where the BVE radio signal is not received.

Feedback

The quality of BVE program content and delivery must be

measured in terms of relevance, acceptability, understandability, credibility, interest, and value as perceived by the target audience. People will listen to BVE radio, attend radio forum meetings, or visit crop demonstrations only if they find what they hear or see to be interesting and beneficial. Continuing success in communicating with rural families is dependent upon constant and reliable feedback from those families, received and acted upon quickly. Feedback mechanisms include weekly feedback reports from monitors and agronomists, letters received (3,000 per month), pre-testing of new program materials on selected farmers radio listener surveys, radio signal penetration tests and informal interviews and contacts.

Problems of Implementation

Difficulties of Inter-Ministerial Coordination

Successful implementation of the BVE Project required that several agencies of the Guatemalan Government collaborate and coordinate their activities with one another and with BVE. Prior experience indicated that collective projects encounter many more problems than those which can function wholly within a single ministry. Recognizing that fact, strong efforts have been exerted throughout the life of the project to develop effective working relationships, particularly with the Ministry of Agriculture.

A potentially conflicting situation existed at the outset. BVE was to be a nonformal education program sponsored by the Ministry of Education for small farmers. Superficially, it resembled ongoing extension education programs of the Ministry of Agriculture. It also depended in large part upon Agriculture for its message content, credit, and other services which farmers need.

A joint BVE-Agriculture coordinating committee was created at the national level in July 1973, to provide a mechanism for permanent liaison between the two institutions. That committee proved to be a key element in achieving the necessary collaboration.

Overcoming Local Resistance

Local acceptance and support, critical to the success of any educational program, cannot be taken for granted. This is particularly true of a project which must function within the constraints of an established experimental design, and whose evaluation requires repeated entry into the small rural communities over a period of years to interview large number of people.

Prior to initiation of pre-program surveys in each region, project leaders contacted local authorities to explain both educational and evaluation aspects of BVE, including why and how many interviews would be needed. In southeastern Guatemala, the active support received from departmental governors and municipal mayors as the result of such contacts was adequate to prepare the program's entry into the region. In the Indian Highlands, more contact was required. After agreeing to support the project, the mayor arranged for BVE representatives to meet with village elders in each community and assigned an official representative of his office to accompany BVE personnel to each meeting. It would have been impossible to function in the Highlands had that additional step not been taken, due to the social and cultural characteristics of people in that region, including their closed and highly traditional society.

The project attracted wide interest from the outset, and its radio stations rapidly gained large listening audiences. High initial enthusiasm and acceptance do not ensure continued support, however. The project must remain sensitive to the local situation and be prepared to take appropriate action promptly if the need arises. One example illustrates this.

People in the village of Jutacaj in the Indian Highlands nearly rejected BVE in May 1976, due to a combination of unfortunate circumstances. They did not fully understand the reasons for being interviewed so frequently or why some farmers were interviewed and not others. About the same time, a Guatemalan government official conducted a survey in the area and asked questions about land ownership -- a sensitive issue. Because he stayed at a BVE monitor's house while in the area, the official was mistakenly perceived by the local people to be a part of the BVE project. The situation was compounded by a new scriptwriter who had just started to write the regional weekly radio forum and whose style was considered by the farmers to be condescending.

This problem was resolved through a series of meetings with local officials followed by two mass meetings with the farmers. At the second meeting, the project was represented by indigenous staff members who were able to discuss the matter with the farmers in Quiche, their own language. Some adjustments were made in interviewing procedures, and radio forums were improved with the help of experienced writers. The project has since proceeded with full cooperation of farmers in the area.

Various feedback mechanisms utilized by BVE have made possible the identification and resolution of problems before they reach the point that local support for the project is seriously jeopardized.

Evaluating BVE's Effectiveness

An extensive evaluation component was built into the BVE design to measure the impact of each of the three message delivery systems on its target group of small farmers.

Information was collected from small farmers concerning agricultural practices and production, cropping patterns, living conditions, diet, education, literacy, communications patterns, radio listening habits, mobility, farmers' sources of information, family size, etc. Such information permits comparisons of living standards observed at the beginning and completion of the project.

The personal interview is utilized to obtain the types of information just described. The evaluation design calls for a baseline survey in each experimental and control area, prior to establishing the educational programming base against which change can be measured. The same farmers are then re-interviewed annually, and a 20% subsample is interviewed in each of six time-sample surveys taken per year. The impact of the various elements of the project can then be monitored. By the time the project is completed, a total of nearly 12,000 interviews will have been conducted among 1,650 farmers living in 49 villages in 13 experimental and control areas located in southeastern Guatemala and the western Highlands.

Future Plans for the Project

The BVE Project was originally structured as a temporary experiment, but the high interest and demand created in the project's experiment phase spurred the development of an effective permanent educational programming system and a cadre of trained people capable of managing it.

BVE continues as an ongoing program of the Ministry of Education.

Concepts and processes developed or articulated through BVE have attracted wide interest in Guatemala and elsewhere.

In short, the future of BVE lies in: (1) its continuation and expansion in Guatemala, and (2) the use of its concepts, processes, and results in the planning and implementation of similar program in Guatemala and elsewhere.

Conclusion: What Has Been Learned

Not until the final analysis of results has been completed in 1978, can final conclusions be drawn about the cost effectiveness of the various types of communications systems utilized in the project. However, some tentative conclusions can now be drawn.

- Radio appears to be a powerful instrument for changing knowledge, attitude, and practice. This is probably due to effective field programming geared to local needs. Because the radio itself is localized, it becomes a part of the community. The styles of this experiment may have created a radio system which is, in fact, a personal communication system rather than the usual, impersonal broadcaster of knowledge.
- It is possible to have an effective nonformal education and information program that does not require literacy. Some evidence suggests that family literacy may be an important factor in determining the most effective way to present a given message to achieve maximum impact. Many illiterates have indicated that they prefer to have an accompanying text that other family members can read to them.
- The content of the educational message and the quality of presentation appear to be more important than the media delivering it.
- Staff training cannot be limited to initial or pre-service training. To remain effective, staffs need continuing reinforcement, support, and development throughout their period of service in the program.
- Constant and reliable feedback from the people served is essential to the continuing success of an educational program.
- To effectively measure project results, the proposed evaluation activities and the personnel responsible for them should be part of the early stages of project planning.

(For further information write to the Academy for Educational Development, 1414 Twenty-Second Street, Washington, D.C.-USA).

CASE STUDY #12

Nonformal Education for Rural Development in Colombia

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Program Description

Accion Cultural Popular (ACPO), a pioneer in the development of radiophonic education programs aimed at rural audiences, was founded as a private nonprofit operation in Colombia in 1947. It has developed during the 30 years of its existence into one of the largest nonformal education programs in the world concerned with improving the quality of life of rural populations and promoting rural development. The educational program utilizes radio in combination with various elements and strategies including radiophonic schools, textbooks, a library of related books, a weekly newspaper, extension courses, and special campaigns. Major reliance is placed on a large number of field workers, for the most part volunteers, who serve as monitors for the radiophonic schools as community workers, local leaders, and supervisory field staff. In the course of a single year, ACPO touches the lives of millions of rural Colombians (campesinos) in its outreach to improve their lives and to offer hope for the future. The success of ACPO has led to the development of similar programs in more than 20 other nations.

Need for Rural Education

Colombia, a nation of 24 million people, is located in the northwestern sector of South America. Five ethnic groups comprise the population: mestiza (48%), mulatto (24%), white (20%), black (6%), and Indian (2%). Almost half the people live in small towns and rural areas and are directly or indirectly engaged in agriculture.

As in many other developing nations, the rural population lives in conditions of poverty, illiteracy, and malnutrition. Education and health services, although improved in recent years, still are far from adequate. Most of the campesinos live in isolation from the modern world in a rural sector that has changed little in the past two centuries. Formal education programs to overcome the problems growing out of this isolation have been minimal or, in some areas, non-existent.

Regional and cultural differences are considerable. This means that Colombia is not one society, but many societies, each with its own set of cultural patterns, social values, and approaches to life. Thus regionalism and isolation together have created problems for education efforts aimed at the rural poor, particularly those that use mass media, since many adaptations of programs and materials must be made to adjust to cultural differences.

Recent data point out that although the national rate for illiteracy is 25%, the rate of illiteracy in the rural sector is approximately 42%, and that of rural adults is more than 50%. Although educational services in the nation have improved to the extent that today more than 80% of urban eleven-year-olds are in school, in the rural areas the figure is less than 60%. Because of the obvious need to reach larger numbers of rural children and adults, the number of formal and nonformal education programs aimed at serving this group has increased markedly in recent years. However, in spite of the growth in nonformal programs and the improvements in public primary education services, the problems of education in rural areas are still serious with implications that extend to the lives of millions of Colombia campesinos.

Health problems are prevalent and serious. From 25% to 40% of the rural population have anemia. More than half the children suffer from malnutrition. Medical and hospital services are totally inadequate with only one physician for every 7,000 persons and only two hospital beds for each 2,000 persons. Only 29% of the rural population have potable water and 33% sewage services.

Although about 70% of the campesinos own land, in the majority of cases the amount of land they own is so small that agricultural production is not even enough to feed their families. Income levels are very low with about 60% of the rural farmers receiving an average of $13.00 per month.

It is in this setting that ACPO began and developed over a period of 30 years as an instrument for providing this large and disadvantaged segment of the population with educational opportunities that would give them hope for a better life.

Today, even with the social and economic changes that have occurred in the 30 years since ACPO began its efforts, the needs of millions of campesinos are still urgent, and ACPO continues to offer them the possibility of a new way of living.

Planning and Program Strategy

The Establishment of Accion Cultural Popular

Accion Cultural Popular (ACPO) came into existence in 1947 through the initiative and action of a young priest, Jose Joaquin Salcedo, who was concerned about the conditions under which the campesinos of Colombia lived. He was convinced that an educational program specifically directed to the millions of rural inhabitants was essential if they were to develop the capacity to improve the quality of living and to build reasonable hopes for a better future. With at least half the total population of the country living in small towns, rural areas, and in relative isolation from schools and other institutions providing educational opportunities, a real need clearly existed for a new system of education that would reach the millions who did not have even the basic rudiments of learning.

In this setting Father Salcedo established Radio Sutatenza and the first radiophonic schools of Colombia in the small mountain village of Sutatenza in the State of Boyaca. The transmitter was crudely made with a very limited broadcast range, but it did make it possible to reach many campesinos of the region isolated by lack of transportation and communication and hitherto without any opportunity for basic education. The radiophonic schools resulting from the new educational effort were located in campesinos homes and included members of one or more families under the leadership of a campesino who functioned as an adjunct to the educational programs emanating from Radio Sutatenza. The major focus of these early radio broadcasts was on basic literacy--reading, writing, and numbers. However, these early programs went beyond literacy in an effort to develop in the listeners a recognition of the responsibility of each individual for his own personal development. Further, they made clear the necessity to develop a comprehensive set of skills that included not only literacy but agricultural, economic, and social skills that would make it possible for the individual to improve his way of life and contribute effectively to the improvement of society.

Growth and Development of the Program

From this small, inital venture into the field of nonformal education, ACPO developed rapidly. Others, convinced of the

importance of developing educational programs for campesinos and impressed by the utility of radio as a means of reaching millions of isolated rural dwellers, joined Father Salcedo in his efforts. A set of basic textbooks dealing with reading and writing, numbers, economics and work, agriculture, health, and spirituality was prepared. A campesino library, a collection of books that supplemented the basic textbooks, was developed and eventually grew into 50 titles.

Institutes for the training of field workers were established in Sutatenza and Caldas. The original primitive radio transmitter at Sutatenza was replaced by modern broadcasting equipment and by four transmitting stations, thus greatly increasing the number of campesinos and millions of other persons who lived in the cities and who could profit from the educational messages of the Radio Sutatenza. The content of the total radio programming was modified and increased to meet a wider range of interests and needs of the listeners beyond the initial educational focus. Radio Sutatenza became a major factor in Colombia radio with a diversified program format including educational programs, news, music, sports, dramatics, and other programs of both general interest and cultural value.

Other elements and strategies were added to ACPO's efforts to educate the campesino. A weekly newspaper, El Campesino, with both the usual newspaper content as well as educational messages specifically related to campesino life, was published and distributed through rural Colombia. At one time, its circulation was more than 100,000 families. Special campaigns, led by the field workers trained in the institutes, involved campesinos in projects designed to achieve improved health, better nutrition, adequate housing, new techniques in agriculture and animal husbandry, soil and forest conservation, and essentials for a better life for the nation's rural population.

As ACPO extended its influence to virtually all regions and areas of Colombia, efforts were made to coordinate ACPO programs with those of other agencies, governmental and nongovernmental. In addition, over the years ACPO developed cooperative or contractual projects with the Colombian government to deal with the utilization of radio for basic education, inservice teacher education, health education, prison education, and military personnel education.

ACPO in 1977

Today Accion Cultural Popular is one of the largest and most successful private nonformal education programs in the world aimed at rural populations and rural development. Radio education and radiophonic schools continue to be

central to ACPO educational strategy. However, basic textbooks, the campesino library, the newspaper, special campaigns, field workers, and training institutes have become essential elements and strategies in a comprehensive educational program. More than 1,000 persons comprise the ACPO staff. Among them are professional staff responsible for the educational programs and the management operations essential to a large and complex organization.

Thus, ACPO has, in the 30 years of its existence grown from a young teacher-priest with a small radio transmitter to a large and complex operation that has extended its influence throughout Colombia and that has been used as a model by more than 20 similar, nonformal education programs in other countries. As Colombia has changed and as the needs of the rural population have changed, so too has ACPO changed in its program content and strategies. However, ACPO's concern for improved quality of life for the campesino is primary, and all programmatic efforts are aimed at that goal.

Goals and Objectives of ACPO

Throughout the years the goal of ACPO has remained fundamentally the same--to develop the campesino's capability to improve the quality of his life and to contribute to the society in which he lives.

This goal has been translated into a number of objectives related to improving the campesino's quality of life. Among these, the following objectives appear to have high priority:

- Development of the basic skills of literacy and numeracy.
- Improvement of individual and family health through hygienic practices, proper nutrition, and use of available medical services.
- Increase in farm production through knowledge and practice of modern techniques of agriculture, animal husbandry, and soil conservation.
- Acquisition of economic knowledge and skills and their application to the management of family, agricultural, and other enterprises.
- Improvement and construction of dwellings that meet minimum standards of health, hygiene, and comfort.
- Utilization of free time for participation in sports and other appropriate recreational activities.
- Living according to ethical and religious principles and serving as a model to others.
- Improvement of family relationships and recognition of the responsibilities of parenthood.
- Participation in neighborhood and community activities.
- Utilization of services of other organizations in the community.

- Development of a political consciousness that focuses on the protection of human rights and individual responsibility.

Methods of Instruction: The ACPO Educational Model

Central to the ACPO model of nonformal education are the educational broadcasts via Radio Sutatenza and the radiophonic schools. However, the radio messages and the radiophonic schools function as only part of a total system involving also a set of basic textbooks, the 50 books in the Campesino Library, a weekly newspaper, recordings, extension courses, campaigns, and the field personnel who function in a face-to-face relationship with the campesinos who are the target of ACPO's educational efforts. Essential to the operation are the professional personnel who are responsible for the planning of the educational program, the development of educational materials and broadcasts, and of the operation of institutes for training field workers.

Instructional Radio. The present instructional program, provides 80 hours of broadcast time each week and includes four courses dealing with the wide range of ACPO objectives. The first of these courses is basic education and is concerned with literacy--reading, writing, and numbers. The other three courses focus on broad subject areas--health and work, numbers and communication, and community life and problems. Although the basic course is a sequential one covering a period of four months, the other three courses are organized into units or modules dealing with specific areas of concern. Examples of these modular topics are: immunization against disease, alcoholism, the family vegetable garden, animal breeding, construction of community sports fields, and participation in community organizations. This modular, non-sequential approach makes it possible for those who cannot listen on a continuing basis over a three or four month period to profit from listening for several days to specific topics of interest and concern. All radio courses are linked to the use of the basic textbooks, the books of the campesino library, and the weekly newspaper, El Campesino.

The Radiophonic School. An essential aspect of ACPO's instructional radio are the thousands of radiophonic schools throughout the country. Not a school in the usual, formal sense of the word, the radiophonic school is an educational setting involving one to ten participants who meet in a home to listen to the instructional radio broadcasts, work and study under the supervision of a volunteer radiophonic school monitor, and engage in individual and group educational activities.

Textbooks and Campesino Library. Six textbooks provide the basic content for the ACPO educational program. They are; *Basic Text, Our Health, Let Us Speak Correctly, Clear Mathematics, Productive Land, and Christian Community.* These basic textbooks are designed for specific use in the instructional radio program and for continuing study by the individual once he has learned the basic skills of literacy.

The books of the Campesino Library, approximately 50 in number, complement instructional radio programs and textbooks. They cover a wide range of ACPO concerns and include such program content as fish culture, health and nutrition, beekeeping, cultivation of fruit trees, children's stories, and others. These books become an important reference for campesinos as they encounter and attempt to solve problems relating to their daily life activities.

The Newspaper. El Campesino is a weekly newspaper aimed specifically at the campesino audience. It contains both the features of a usual newspaper and articles dealing with campesino concerns such as improved diet, nutrition, agricultural practices, animal husbandry, making of clothing, and cooking recipes. It is used directly with instructional radio programs and activities of the radiophonic schools.

Correspondence. All campesinos involved in ACPO programs are encouraged to write to ACPO concerning their problems and concerns. All letters are answered individually. Since the inception of ACPO, almost one million letters have been received and answered.

Campaigns. Campaigns are organized efforts to deal with certain campesino needs and problems. Campaigns utilize all ACPO resources--instructional radio, field workers, radiophonic schools, textbooks, campesino library books--and focus on helping campesinos to apply their knowledge to real-life situations. Examples of campaigns are vegetable gardening, nutrition, use of fertilizers, and soil conservation.

Interpersonal Component. A critical element in ACPO's success over the 30 years of its operation are the human resources that constitute the interpersonal component. These resources fall into three categories: (1) management and planning personnel, (2) educational development personnel, and (3) field staff, both volunteer and paid. Staff includes teachers working in face-to-face settings with the radiophonic school monitors, the community workers, community leaders, and supervisors.

Teachers in the ACPO System

The concept of *teacher* in the ACPO system is somewhat different from the traditional definition. If a teacher is defined as a person who helps to guide the learning process of a student,

then the ACPO model identifies three classifications of teachers: (1) those who have no direct or personal contact with students (campesinos), (2) those who regularly have a face-to-face relationship with students, and (3) those who serve as the trainers of teachers.

Professors. Professors, the group that has no direct and personal contact with students, operate at the center of the ACPO system. They are the planners, developers, and producers of the educational programs. They establish educational objectives, develop curricula, prepare course contact, and devise teaching strategies. They also write the textbooks and books of the campesino library, prepare radio scripts, write educational articles for the newspaper, make recordings for radio classes, and design and develop audiovisual materials.

Field Teachers. The field workers of ACPO, more than 18,000 in 1976, are those who serve in various teaching roles in face-to-face relationships with the campesinos. The leader serves at the community level of the educational program to promote ACPO services, train the radiophonic school monitors, adapt program content to the community, and coordinate all ACPO activities in his assigned area. Those who serve as leaders have had approximately a year of training in the ACPO Institute as well as successful field experience as community workers.

Community Workers. Their work is somewhat more limited than that of the leader, under whose direction and with whose support they engage in ACPO program tasks. They work directly with their own families and neighborhood families, encouraging them to enroll in radiophonic schools, directing them to other ACPO programs, and helping them to make practical applications of what they have learned. The community worker, before being appointed, must have completed a special four-month training program at the ACPO Institute.

Radiophonic School Monitors. Another type of teacher is an untrained volunteer who has basic knowledge and skills in reading, writing, and numbers, and who is interested in helping others to achieve literacy. His main task is directing the work and study of a radiophonic school. He organizes the school group, encourages their regular participation, assembles necessary materials and supplies for the class sessions, helps the students to follow the plan of the lesson, adapts lesson content to local situations, and guides the students in making practical applications of their learning in everyday life.

Teacher Educators. The teacher educators comprise the faculty of the institutes in which leaders, community workers, and supervisors are trained. They develop curricula for the three courses of study offered at the Institutes

and serve as the teaching faculty in both classroom settings and field applications of knowledge gained in the classroom. Included in this group are agricultural extension workers, nurses and health experts, normal school graduates, and campesinos with successful ACPO field experience. As teachers of teachers, the teacher educators are a key component of the ACPO model. With their commitment to the goals of ACPO and their role in the development of the field workers, they are real change agents for the rural development of Colombia.

Evaluation of ACPO

ACPO has over the years utilized two approaches to the evaluation of its efforts: (1) internal evaluations in which all levels of staff, as well as students, participate and (2) external evaluations that involve national and international organizations, as well as scholars from universities in Colombia and elsewhere.

Evaluations occur regularly in the radiophonic schools under the direction of the school monitor. Self-evaluation instruments prepared by the professors are used both to assist the student in evaluating his progress and to encourage him to engage in further study. Central office and divisional professional personnel hold seminars to discuss and evaluate all aspects of the ACPO educational program. Once each year, a meeting of all ACPO professional personnel, as well as leaders and supervisors, is held at Sutatenza. This meeting provides an unusual opportunity for a comprehensive evaluation of ACPO programs and activities.

Many external studies and evaluations have been carried out by national and international organizations, as well as by universities and individual scholars. At the present time, the Florida State University, with support from the United States Agency for International Development, is engaged in a two and one-half year evaluation of the overall effectiveness of the ACPO education model in terms of its immediate effects and its long-range consequences on campesinos and campesino life. The outcomes of the evaluation will be utilized to develop a comprehensive set of guidelines for nations throughout the world to use in developing and/or improving nonformal education programs for the rural populations.

Conclusions: What Has Been Learned

ACPO, like all formal and nonformal educational efforts, cannot remain static. Changes are necessary as society changes. At the present time, ACPO views its future development in terms of three basic principles derived from

its experience:

- the need to adjust content and methodology to the changing needs of the campesinos.
- the importance of adapting mass educational programs to the specific circumstances and needs of different regions of the country.
- the importance of community support in the development of educational programs for community needs.

What ACPO becomes and how effectively it serves the needs of the target population depends on ACOP's response to these principles. Up to now in its thirty years of existence, its success has been due to its ability to change as society has changed. Today, with the rapid and massive changes in life throughout the world, ACPO and its counterparts elsewhere must be prepared to meet change with change.

(For further information on ACPO, write to Director of Planning and Evaluation, Accion Cultural Popular, Bogota, Colombia).

Section Four:

IMPROVING THE QUALITY OF EDUCATION

Section Four, on improving the quality of education, is introduced by FAFUNWA's statement on educational needs in Nigeria. The most important dimension of quality improvement is the sensitive adjustment of education goals and curriculum to the changing needs of a developing society.

LEE's case study on managing educational reform in Korea underscores the point that improving the quality of education is next to impossible without improved management and administrative structures.

Assessing Educational Needs in Nigeria

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Education and Change

Assessing the educational needs for a changing society can be a precarious business, both in developed and developing countries. It is certainly a difficult and often frustrating task in a developing country. Education is more than schooling, but the school represents the formal aspect of education. Yet a person may be well-schooled and not necessarily well-educated or not as well educated as someone may wish him to be. The American nature writer Thoreau said that his education was interrupted by his schooling; another writer defined education as "what is left after we shall have forgotten all about schooling."

For us in Africa, many of our educational problems are identifiable, but others are not as easily discerned. It is often said that Africa is a continent in a hurry; it is witnessing an era of unparalleled growth in the areas of economic, social, cultural, and educational activities. However, growth and productivity (the measure of the efficiency with which a nation's resources are transformed into commodities and services) are not simply a function of the amount of manpower, raw materials, physical capital, and equipment available and in use. Productivity also depends heavily on the attitudes, knowledge, and skills of people, which in turn reflect the education, training, and complex organizations which modern technology requires. It is our view that no country can rise above the level of its illiterate population, especially if the majority of the population is illiterate. Until we can mobilize the whole people, we in Africa cannot claim to be living in a technological age.

Literacy and Development

With a population of 70 million, Nigeria's illiterates exceed 60%. Indeed, less than 6 million of our people speak and write anything akin to English, and not more than 20 million out of a possible 70 million read and write in any language. Therefore, when we say that Nigeria is in a hurry, only a small number is affected; the majority remains relatively static, thus creating an enormous imbalance--socially, economically, and culturally. Most Africans are still living in the 18th century, some in the 19th, some in the 20th, with a

few already in the 21st century.

One common fault found in most developing countries is that most development plans are city or urban oriented. Urban people get better roads, improved transportation, clean water, better schools, television, better drainage, better health services, etc. If there is money left, we then think of the 80% of our people who not only live in the rural areas, but who also provide us with food and foreign exchange. We need to reverse our development priority and plan more for the majority of people living in the rural areas and less for the citified citizens who are articulate and resourceful enough to take care of themselves. The illiterate adult is the most neglected of our resources. As Thomas Jefferson rightly observed: "If a nation expects to be ignorant and free . . . it expects what never was and never will be."

Africa needs literate manpower to help her tremendous natural resources. Even in developed countries where a majority of people are literate and numerate, simple rules on safety, sanitation, trespassing, etc., are kept constantly in the public mind through posters and notices such as "No Spitting," "Out of Bounds," "Danger," "Don't Walk," "Silence," "Drive Slowly," etc. Without constant visual aids and the written word, even the educated or the so-called sophisticated man or woman may fall below the expected standard. Moreover, teachers, researchers, doctors, lawyers, generals, professors, civil servants, engineers, and others rely heavily on libraries, books, and other written sourcers as props. Yet we expect the illiterate African to carry all valuable information in his head. An illiterate individual is invariably a marginal citizen, a poor consumer of goods, a poor producer, and a pawn in the hands of the unscrupulous politicians and rumor mongers.

Who Determines Educational Needs?

Assessing educational needs can be a precarious affair, and one is tempted to ask whether the experts or the consumers of the educational product are most competent to assess educational needs of the people. A group of experts, drawn from the class of the educated elite, may discuss the feasibility of free and universal primary education for a given country and argue convincingly that the country is too poor to launch such an expensive scheme. Unfortunately, the people who are concerned the most--the poor farmers, the workers, the lame, the blind, and the generality of people who are nonliterate--would not be at this meeting to agree or disagree with that conclusion. Indeed, all of the experts involved would hold important posts and could afford to send their children to the most expensive schools for the best education.

Oftentimes, experts tend to ignore the views of the parents,

the children themselves, and all others who use their services. Yet parents do need to be involved if they are to play positive roles in the education of their children.

Nigeria took a giant step toward meeting some of its educational needs by introducing Universal Primary Education (U.P.E.) in 1976. This followed nearly two decades of programs and projects to educate the Nigerian people. A look at what has been done may be helpful in understanding what changes still need to be made.

What Has Been Done to Meet Educational Needs?

In the last 17 years since Nigeria's independence, several assessments, experiments, and innovative projects have been executed by various agencies and individuals in Nigeria. They are described chronologically below:

- In 1960 a Commission on Higher Education led to the establishment of five new universities in Nigeria. Student enrollment increased from a mere 1,000 students in 1962 to over 20,000 in 1972 and close to 30,000 in 1977.
- In 1969 a unique educational conference was held in Nigeria entitled, *National Conference on Curriculum Development*, to identify Nigeria's educational needs at all levels--primary, secondary, technical, teacher education, higher education, illiteracy, and adult education. The one-week conference was attended by a cross-section of the Nigerian community: farmers, workers, civil servants, teachers, parents, employers, and youth representatives. The meeting offered a golden opportunity for citizens to express their opinion about the type of education Nigerians wanted. After the conference, curriculum experts and teachers met to translate the people's wishes into manageable curriculum objectives.
- In 1973 a follow-up seminar was organized to examine the issues further.
- In 1976 free and universal six-year primary education was implemented, followed by a three-year junior high school, a three-year senior high school, and a four-year university education system.
- Early in 1977 the Federal Military Government issued a *National Policy on Education*, which streamlines the educational system in terms of Nigerian reality--a definite departure from the colonial system. It made specific provisions for adult and nonformal education, education of the handicapped, teacher education, and educational services needed for the administration, planning, and financing of education at national and state levels.

In the last two years, two other examples of projects and experiments carried out in Nigeria included the Ibadan University's project for functional literacy among Nigeria's

tobacco farmers and the University of Ife's work with ten villages of Oyo State for functional literacy among maize farmers. In the latter program, university personnel first worked with the farmers on how to grow a new maize variety, how to harvest and build durable storage facilities, and how to plan marketing and profit sharing. This was followed by a program organized for farmers and their families to attend literacy classes in the evening and read books and newspapers on maize planning, harvesting, storage, marketing, and bookkeeping. The experiment increased from only 20 participating farmers in 1972 to over 200 in 1976.

The Language Problem of Nigerian Children

The major aim of primary education is to help the child develop his natural abilities by creating the environment necessary to stimulate, challenge, and involve him socially, physically, intellectually, and emotionally in the art of learning and doing. To this end it is the responsibility of the educational system to facilitate learning by creating the ideal situation for the child to discover things for himself.

The Importance of the Mother Tongue in Learning

It is universally agreed that a child learns best in the mother tongue. Yet in Africa and a few other ex-colonial countries, formal education is offered in a language foreign to the child. In Europe, North America, the USSR, and China the child goes through his primary, secondary, and university education in his own mother tongue. In most countries, activities related to trade, commerce, education, civics, and culture are conducted in the mother tongue, whereas in Africa south of Sahara and north of Limpopo, we educate our children in a foreign tongue from primary to post-secondary level. While native speakers of English, French, etc. may have problems in understanding their own language--as dramatized in a popular book entitled *Why Johnny Can't Read or Write*--the African child has all of Johnny's linguistic problems plus his own, thus suffering from double jeopardy.

African society today is in an ambivalent position, and so is the child from this environment. Until the age of five, African children are invariably brought up in the traditional African environment; but when they reach the age of six, one-tenth to one-third of these children (depending on the African country) enter an entirely different educational system. This phenomenon has not been given the attention it deserves by African educators and psychologists. We assume that the African child takes this dramatic change in his stride, and we expect him to respond to this new situation as an average English, American, or German child would. However, the child's

cognitive equilibrium has been disturbed, and the deep gulf between the traditional, nonformal African system of education and the formal, Western-oriented system of education tends to retard the cognitive process in terms of the anticipated outcomes of the Western form of education. In this abnormal situation, more than 50% of the children who enter primary schools dropped out before the end of the course. A number of studies carried out on "primary school dropouts" in Nigeria and elsewhere attributed the dropout phenomenon (ranging from 40% to 60% in certain countries) primarily to the premature introduction of English as the language of instruction at the primary school, but also to poorly trained teachers or inadequate teaching facilities. Little or no continuity exists between the African child's home experience and his school experience, whereas in Western countries, the child's school experience is usually a continuation of his home experience and exposure.

Bilingual Instruction and Learning Difficulties

One 1967 study worth noting is entitled, "The Effect of Bilingualism on the Abstract and Concrete Thinking Ability of Yoruba Children." Its purpose was to examine the learning and thought process of young Yoruba children when they are forced to work in two languages--Yoruba and English. About 400 primary school children were involved in the experiment and were selected from Ile-Ife and nearby villages. The children were presented with a series of pictures and asked to identify them as either English or Yoruba, depending upon their experimental groups. They were then asked to recall as many of the objects as they could in either English or Yoruba, again depending upon the experimental group. The study showed that the children were at their best when taught in Yoruba and asked to recall in Yoruba.

This and other studies led educators to wonder whether the African child is not being unnecessarily maimed emotionally and intellectually. The first 12 years of a child's life is his most formative period, for it is during this time that attitudes and aptitudes are developed. Yet only in countries that are ex-colonies still under colonial rule, such as in Africa, are children prepared for citizenship in a language foreign to them. This occurs even though a child learns best in his mother tongue, which is as natural to him as the mother's milk. The question must be asked whether this serious defect in Africans' pattern of education has not robbed us of our inventiveness, originality, and creativity--since we tend to think in English, French, or Portuguese instead of Wolof, Ewe, Yoruba, Hausa, Ibo, Kukuyi, Ga, or Mende.

An Experiment in Utilization of Yoruba Language

As a result of these studies and observations, the Institute of Education at the University of Ife launched the Six-Year Primary Project in January 1970, with Yoruba as medium of instruction throughout the six-year primary course and English as a second language.

Mother Tongue Project--Hypotheses and Objectives

The project was predicated on the following two hypotheses:

- The child will benefit culturally, socially, linguistically, and cognitively through the use of his mother tongue as the medium of instruction throughout the six years of primary school.
- The child's command of English will be improved considerably if he is taught English as an entirely separate subject by a specially trained teacher throughout the six years of primary school.

The main objective of the project was to make the child an intelligent citizen of his country by the following educational procedures:

- Employ Yoruba language as the medium of instruction on the assumption that the child will benefit by bridging the gap between the home and school.
- Teach English as a foreign language throughout the six years by specially trained teachers.
- Evaluate the project continually to determine the presence or absence of certain significant differences between the project children and the children of primary schools not connected with the project.

The total number of children in both the experimental and the control classes was approximately 480 in 1973 and rose to 1,5000 in 1975.

Mother Tongue Project--Initial Difficulties

The Western State Ministry of Education officials charged with the administration and supervision of primary and secondary education in the state had grave reservations about the use of Yoruba, or any other African language for that matter, as medium of instruction in primary and secondary schools. The Ministry was not alone in its reservation. Some Nigerian scholars and administrators also had some reservations on the project. One such reservation was that Yoruba was not fully developed as a language to cope with science, mathematics, social studies, etc. Another reservation was that the children would be so immersed in Yoruba language and culture that such exposure would undermine national unity. Yet another

objection was that the children would be at a disadvantage linguistically and cognitively when they entered a secondary school at the end of their primary education. One answer to these and other objections is that the experiments' purpose was to find out whether all these reservations were valid. Moreover, Yoruba like any other language does not have adequate vocabulary to cover all situations; but it has tremendous capacity or elasticity in accommodating new situations by coining words, changing coverage in terms of meaning, and borrowing words. All dynamic languages respond to new situations in this fashion.

The question of disunity may be refuted with the contention that while a commonly spoken language is helpful in promoting unity among people of diverse tongues, it is not sufficient. Nations that speak the same language have gone to war with one another. The present approach to the teaching of English in Nigeria will not anglicize Nigerians in 100 years. Less than 10 million Nigerians out of 60 million speak English; 10 million speak Igbo; 10 million speak Yoruba; and 25 million speak Hausa. A good education in any language can inculcate the spirit of unity, freedom, mutual respect for others, and appreciation of cultures different from those in which the children grew up. If a Yoruba, Igbo, Ijaw or Bini boy swears allegiance to his country in his own language, it will likely mean more to him than in a language less familiar to him.

As to the question of admission to the secondary level where English is the medium of instruction, the experimental children will not be worse off than other children since the former are exposed to English as a foreign subject from year one to six. Finally, since primary education is terminal for the majority of the children, they should have a good, functional six-year education.

The Ife Project is the only extensive, truly Nigerian curriculum development project at the primary level in Nigeria. In the course of their work, many already established professionals have acquired new insights into primary education and new skills in the curriculum development process which will carry over into other areas of their work in the future. Part of this process was the writing and publishing of over 150 books in the Yoruba language. These publications included teacher texts, pupil textbooks, and supplementary readers in English and Yoruba language study, mathematics, science, and social and cultural studies.

Mother Tongue Project--Follow-Up

Many of the children who completed their six-year education in Yoruba are now in secondary school; others are undergoing apprenticeship training; still others are helping their mothers

in the market place or their fathers on the farm. The project is now seeking funds to monitor these children and compare their academic and social performances with their counterparts who followed the conventional primary education course.

Mother Tongue Project--Observations So Far

The following can be observed at the end of the fourth year of the experiment:

- Generally, the children in the experimental classes are showing more evidence of self-reliance, resourcefulness, and self-satisfaction when compared with the children in the control group.
- Parents assist the classes by supplying information on local mores, folklores, festivities, etc., whenever requested by the teachers. Both parents and children now communicate in a common language in regard to school education, a situation that is unique in almost 150 years of formal education.
- The experimental classes seem to express themselves more fluently in both Yoruba and English as compared with the control classes. They also tend to learn French better.
- The control classes at the project school cannot be truly called "controlled." It may be that only classes outside the project school can truly be called "control classes."
- The experiment has opened the way for extensive use of science materials for adult and literacy education.
- The Yoruba project children are notably above average in acceptability by their peers as leaders and companions. They also have fewer emotional and adjustment problems than nonproject children.

Conclusion

The assessment of the educational needs of a changing society is not an easy task since the needs continue to change with the society. Our chief concern as educators is to devise a better machinery for adjusting the curriculum and for educating teachers to cope with the constant needs of the society. I am confident that the enthusiasm and commitment which the International Council on Education for Teaching is fostering among teachers, teacher educators, and administrators will yield maximum results in making education for one world a reality.

CASE STUDY #13

Managing Educational Reform in Korea

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The Necessity for Educational Reform

In the past, changes in the educational system were of a most gradual nature. Curriculum revision, consisting of minor additions and deletions in the curriculum, was made on a piecemeal basis until very recently. This kind of approach toward curriculum revision required little scientific research and development. The usual procedure in such cases was to form an ad-hoc committee with a few subject specialists to make some modifications in the course of study. Modifications that curricular organizations recommended were so minor in nature that they posed no serious challenge to the traditional approach to education.

The situation schools face today, however, can no longer tolerate such slow, minor, and partial changes in the curriculum. Rapid changes in nations, political and economic upheavals in the social system, and widened interests and aspirations of the people all make new demands on the educational system. As a result, the overall goals and methodology of education are compelled to change. Education is now expected to develop individuals--not a few elite, but all individuals--to their highest capability. Education is called upon to increase national potential and competency. Not intelligence or productive skills alone, but also general citizenship qualities and the basic values of the society are expected to be instilled in the behaviors of the learners. These demands imposed upon today's educational system require a curriculum which offers more than mere coverage of subject matter.

Furthermore, subject matter itself is now undergoing radical changes in its conception. Perhaps the most fundamental difference is that the subject formerly viewed as a body of teachable knowledge, or as a history of what has been produced in the past, is now increasingly regarded as a method of inquiry and as a way of thinking about and investigating the nature of the world and human experiences.

These changes in aims of education, a different concept of subject matter, and demands for new educational content are having great repercussions in other components of the educational system. New aims and objectives require different approaches to curriculum organization, different methods of

teaching and learning, different ways of evaluating results, and different ways of managing classes and schools. The new changes often pose a threat to traditionally trained teachers, thus necessitating inservice training to familiarize them with modern methodology. The current pattern of curriculum revision comprises a complete overhauling of curriculum planning and operation in place of the traditional approach of partial change in the course of study.

Comprehensive and systematic efforts for a reform of the educational system are being undertaken in many countries. An increasing number of nations are establishing educational research and development institutes at the national level. In view of this trend, it was not a mere coincidence that the Korean Educational Development Institute (KEDI) was launched in August 1972.

Overview of the Korean Elementary-Middle School Project

Project Purposes: *Pay-off* and *Intrinsic* Goals

The overriding goals of the Elementary-Middle School (E-M) Project were drawn from the need for massive and systematic reformation of the Korean elementary and middle school system, and are reflected in the proposed tasks of KEDI, which consist of the following *pay-off* goals:

- To develop curricula that better reflect Korean national ideals and needs, a balance in terms of cognitive, moral and affective learning outcomes, and modern knowledge, as well as technological development and applications.
- To raise the achievement level of children, with a special emphasis on the higher learning thought processes.
- To equalize educational opportunities of both urban and rural children.
- To improve the cost effectiveness of the educational system.
- To improve the accountability and credibility of the educational system to the general public in order to obtain more support for the new educational system.

These *pay-off* goals of the E-M Project are the bases for the instructional design and evaluation of the project. Besides these *pay-off* goals, there has been an attempt to specify other types of *intrinsic* goals, which reflect what should be learned and how learning will take place. Instruction stresses the development of such higher mental processes as problem solving, critical thinking, and creative production. Values, attitudes, skills, and knowledge needed for national development are emphasized. These *intrinsic* goals have been established as the criteria to be fulfilled through the development of KEDI's new educational system.

Stages in Project Implementation and Management

The "theory-into-practice" model is at the base of implementing the project. In accordance with this model, the following six stages have been identified within the framework of the project:

I Studying educational goals
II Specifying school curriculum
III Developing a new instructional system
IV Developing a school management system
V Adopting diffusion strategies
VI Evaluating the new educational system.

Stage I: Studying Educational Goals

KEDI has conducted a series of seminars and meetings to gain reactions to and suggestions about national goals of education. Meetings have been held for parents and the general public, public and private school teachers, as well as administrators, university professors, and leaders representing various walks of life in the society. KEDI has also involved a large number of Korean educators in different developmental aspects of the E-M Project to obtain significant input and to develop a support base within the educational community. As the result of these efforts at broad-based support, KEDI has been able to clarify and at the same time modify the general educational goals of the project.

Stage II: Specifying School Curriculum

Curriculum specification included an analysis of the existing curriculum for relevancy and a systematic elaboration of instructional objectives and content structure by subject matter and unit. The results provided the basis for the development of teaching-learning materials.

Stage III: Developing a New Instructional System

The development of the general model for an instructional system was followed by specification works and development of submodels which were continuously modified and refined on the basis of the results of small-scale tryouts.

In its development of appropriate materials, KEDI has implemented the General Instructional System Model, similar to other instructional systems models found throughout the world. The KEDI instructional system model has five steps: (1) planning, (2) diagnosis, (3) teaching-learning activities, (4) extended learning, and (5) evaluation.

Step 1: Planning. The planning step consists of three tasks: task analysis, lesson plan, and management plan. Each KEDI curriculum team is responsible for the identification, wording, and ordering of the instructional objectives for each grade level and for the units within the grade level.

Once the objectives have been stated and ordered, the KEDI curriculum teams develop suggested lesson plans for teachers.

The third element of the planning step is the management plan which provides teachers with class management suggestions, schedules, and materials.

Step 2: Diagnosis. The diagnostic stage identifies the student's entry level of prerequisite behaviors needed for each unit. Suggested learning activies for remedial instruction are provided in the Teacher Guide.

Students are classified by the diagnostic test scores as either having mastery, near-mastery, or non-mastery. Suggested activities appropriate to the needs of each respective group are provided to teachers.

Step 3: Teaching-Learning Activities. Activities are developed to provide for large group, small group, and individual instruction. ITV and radio are utilized in large group instruction.

Step 4: Extended Learning. After the students have completed the activities specified in the teaching-learning stage, a "formative test" is administered to determine degree of progress and to identify students as having mastery, near-mastery, or non-mastery of the content. Those students classified as *mastery* utilize enrichment and accelerated learning activities and serve as tutors for other students. Students classified as *near-mastery* are also provided learning activities requiring a maximum of student involvement and a minimum of teacher-directed instruction. The group classified as *non-mastery* receives the most attention from the teacher, who is encouraged to work directly with these students.

Step 5: Evaluation. In this final stage, the "summative" or end-of-unit tests are administered. These provide information to the student, teacher, and parents regarding degree of mastery of specified cognitive, affective, and/or psychomotor objectives.

Stage IV: Developing a School Management System

Because the new system requires a variety of instructional procedures, for example the use of Instruction Television (ITV), across several classrooms, KEDI designed a school management system to facilitate these changes. Through the use of ITV and radio, large groups of students can be receiving instruction, freeing the teacher to work with small groups or individual students. The use of programmed materials and student guide books enable some students to study independently.

Students who have mastered the tasks serve as tutors and helpers to others.

Stage V: Adopting Diffusion Strategies

The starting point for diffusing an innovative program of education is the awareness by users and practitioners. A variety of information services have been provided to nurture favorable attitudes of teachers and administrators toward the innovative program.

The diffusion strategy adopted by KEDI was on an incremental basis, encouraging the spontaneous participation of a small number of schools in the demonstration of the new system and expanding the scope of participation by spurring the interest of potential adopters, supervisors, and administrators. This constitutes a cycling process, which comprises awareness - interest - evaluation - field trial - adoption - institutionalization.

Diffusion also involves teacher training conducted by KEDI on a continuing basis. The training is offered twice a year--during summer and winter vacations, followed by research and staff visits to schools during the semester--in the forms of lectures, discussion, and field guidance.

The demonstration schools serve as a medium for the diffusion of information through the holding of regional and nationwide seminars.

Stage VI: Evaluating the New Educational System

Clinical evaluation involved testing curriculum materials, models, and instructional programs in a preliminary form under relatively small-scale conditions. On a large scale, various components of a new system were put together and implemented in selected demonstration schools.

Finally, an external evaluation assessed the overall effectiveness and the relevancy of the new system. Evaluation has also been conducted by foreign and domestic scholars who have been invited to serve in a consultative capacity on an occasional basis.

Outcomes of the Project

The initial four years of implementation have yielded significant outcomes.

- A significantly higher level of student achievement was demonstrated in all subject matters involved.
- There was a sharp increase in the attendance ratio of students.
- The number of teachers who are favorably disposed toward the new system rose proportionally with increasing amount of training.
- Parents' awareness of the practical value of the new educational system resulted in greater cooperation with schools. An increasing number of parents desired to

transfer their children to the new educational system.

- An increasing number of teachers from non-participating schools were found to be using the KEDI's teaching-learning materials.
- Training of researchers at home and abroad contributed significantly to upgrading the research capacity of the institute.

Problems and Conclusions

The process of implementing the E-M Project has not been impeccable. The problems encountered may be summarized as follows:

Problems arising from failure to proceed along planned lines. It was publicized that KEDI would commence the broadcasting of ITV programs to primary and middle schools in 1976. Due to delay in the construction of a transmitting system, this target goal has not been realized at present. This delay caused a great deal of frustration for research and development staffs and for the school teachers who are eager to utilize ITV. Such an experience suggests that when an innovative program is planned, its feasibility must be taken into full consideration. At the initial stage of planning, alternative measures must be adaptable to sudden situational changes.

Problems related to cooperation of administrative authorities. A number of supervisors have shown indifference to KEDI's new educational system. Frequent workshops may offer some means to reduce the communication gap between researchers and supervisors. Without the willing cooperation and positive attitude of supervisors, teachers may be negatively influenced at the outset of the new program.

Problems related to teachers and teacher educators. In an innovative program, the teachers are frequently a major source of resistance to change. When an educational innovation was introduced on a small scale, the resistance could be overcome with ease through face-to-face interactions between the teachers and the research and development group. When the number of schools involved increases, face-to-face interaction becomes increasingly difficult, necessitating the involvement of teacher educators who will be responsible for the training of teachers.

Problems of adversaries. "Adversaries" refer to the scholars or researchers in higher education institutions who are in a competitive position to exert influence on education. They are often opposed to innovative programs initiated by other institutions. The difference in philosophy or opinions often becomes a major source of resistance in the community of professionals.

In conclusion, as KEDI responds to recurrent needs such as curriculum and textbook revision, development and supply of teaching-learning materials, continuous improvement of instructional and management systems, and establishment of a long-range planning, the E-M Project will be further expanded in scope and depth. A systematic and planned reform in the national educational system is by no means a response to a temporary, short-term or once-and-for-all type of requirement. The changing needs of a society require an educational system that is adaptive and continually changing. The E-M Project is not just an undertaking of a fixed duration but reflects continuing efforts directed toward a better education for tommorrow. It is indeed an integral part of an ever-evolving national educational reform movement.

For successful implementation of any innovative program, a set of guiding principles must be observed. One of the principles I wish to emphasize in closing is the lesson that *an innovative program can neither be imported nor implanted by force; rather in order for it to serve as a viable alternative for improvement in the educational system, the new program must evolve from the existing system.*

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